

NPL SEARCH REQUEST FORM

Access DB# 116397

Scientific and Technical Information Center

Requester's Full Name: Doug Butler Examiner #: 59389 Date: 3/8/04
Art Unit: 3683 Phone Number 30 8-2575 Serial Number: 10/659 855
Mail Box and Bldg/Room Location: CPK5-6A Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Electromagnetic Brake assembly and supply power
Inventors (please provide full names): Conny Johansson; Lars Nysgren;
Bruno Slettenmark
Earliest Priority Filing Date: 9/11/2002

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Problem is an electromagnet is operated by DC (direct current) but interrupting the DC does not fully return the electromagnet to its original state (hysteresis).

Applicants solve the problem in 2 ways.

- ① An AC source (alternating current) is connected to the electromagnet to reduce the residual magnetism by varying the AC.
- ② A capacitor and resistor are connected in parallel with the electromagnet to reduce residual magnetism.

Copy of application attached and labeled.

STAFF USE ONLY

	Type of Search	Vendors and cost where applicable
Searcher: _____	NA Sequence (#) _____	STN _____
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic _____	Dr.Link _____
Date Completed: _____	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: _____	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: _____	Other _____	Other (specify) _____

NPL Search

Set	Items	Description
S1	12	AU=(NYGREN L? OR NYGREN, L?)
S2	270668	ELECTROMAGNET? OR ELECTRO()MAGNET?
S3	208283	BRAKING OR BRAKE OR BRAKES
S4	1945368	POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
S5	1551879	CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
S6	891430	ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
S7	0	S1 AND S2
S8	11097	S2 AND S3
S9	300	S8 AND S4 AND S5
S10	69	S9 AND S6
S11	4	S10 AND IC=B60L?
S12	19	S9 AND IC=B60L?
S13	15	S12 NOT S11
S14	1577	S8 AND S6
S15	26	S14 AND IC=B60L-007?
S16	23	S15 NOT S12

? show file

File 344:Chinese Patents Abs Aug 1985-2004/Mar

(c) 2004 European Patent Office

File 347:JAPIO Oct 1976-2003/Oct(Updated 040202)

(c) 2004 JPO & JAPIO

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200416

(c) 2004 THOMSON DERWENT

File 371:French Patents 1961-2002/BOPI 200209

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11/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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04169580 **Image available**
AUXILIARY **POWER** SUPPLY FOR VEHICLE

PUB. NO.: 05-161280 [JP 5161280 A]
PUBLISHED: June 25, 1993 (19930625)
INVENTOR(s): SHIRATA TERUHIRO
APPLICANT(s): ISUZU MOTORS LTD [000017] (A Japanese Company or Corporation)
, JP (Japan)
APPL. NO.: 03-339787 [JP 91339787]
FILED: November 28, 1991 (19911128)
INTL CLASS: [5] H02J-007/14; **B60L-007/20** ; **B60L-011/18** ; F02N-011/08;
H01G-009/00; H02P-015/00
JAPIO CLASS: 42.9 (ELECTRONICS -- Other); 21.2 (ENGINES & TURBINES, PRIME
MOVERS -- Internal Combustion); 26.2 (TRANSPORTATION -- Motor
Vehicles); 42.1 (ELECTRONICS -- Electronic Components); 43.1
(ELECTRIC **POWER** -- Generation
JOURNAL: Section: E, Section No. 1446, Vol. 17, No. 566, Pg. 88,
October 13, 1993 (19931013)

ABSTRACT

PURPOSE: To efficiently use the **power** from an **electromagnetic** type
retarder that is outputted during the **braking** operation of a vehicle as
the **power** supply for **charging** a battery by using a **capacitor** having a
large **capacitance**.

CONSTITUTION: An output from a retarder 1 for regenerating the **power**
during the **braking** operation of a vehicle is supplied to an electrical
double-layer **capacitor** 5 through a rectifier 16 and a diode 52 is
connected in such a direction that **charge** is led to a battery 3 from the
capacitor 5. Therefore, the diode 52 is reversely biased under the normal
condition and **power** supply from the battery 3 by self-discharge of the
capacitor 5 is suspended, but when an engine is started, a relay B closes
due to the operation of a key switch 6 and the **capacitor** 5 is **charged**
by the battery 3.

11/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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00902002 **Image available**
METHOD AND APPARATUS FOR DETECTING PLUGGING OF ELECTRIC ROLLING STOCK

PUB. NO.: 57-052302 [JP 57052302 A]
PUBLISHED: March 27, 1982 (19820327)
INVENTOR(s): SUZUKI KOJI
NIIMI MASAYOSHI
KATO TAKETOSHI
APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 55-126340 [JP 80126340]
FILED: September 11, 1980 (19800911)
INTL CLASS: [3] **B60L-007/00**
JAPIO CLASS: 43.4 (ELECTRIC **POWER** -- Applications); 26.2 (TRANSPORTATION
-- Motor Vehicles
JOURNAL: Section: M, Section No. 142, Vol. 06, No. 126, Pg. 60, July

10, 1982 (19820710)

ABSTRACT

PURPOSE: To detect a **braking** condition through plugging accurately by determining reference voltage from a current detecting means by currents flowing under a locking condition of a motor during the operating time of a monostable multivibrator.

CONSTITUTION: When a switch not shown is changed over, **electromagnetic** contactors 5, 6 are each switched to the constantly-closed contact b side and the constantly-opened contact c side, and brought to plugging conditions, and currents by electromotive force flow through armature winding 3 through a plugging diode 7. In this case, the output of a comparator 20 is (1) because the **charging** voltage of a soft start **capacitor** 18 is small - that is, a conduction ratio is smaller than set value - due to the functioning of a clear circuit, etc. not shown responding to the action of a changeover switch owing to just after changing over. Since the magnitude of source currents during the operating period of the monostable multivibrator 16 becomes larger than reference value on account of the short circuit of the armature winding 3 by the diode 7 at the same time, the output of comparators 13, 49 is both (1), base currents are supplied to a transistor 51 and the transistor 51 is at on, and plugging can be detected.

11/5/3 (Item 3 from file: 347)

DIALOG(R) File 347:JAPIO

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00886286 **Image available**

ELECTRIC MOTOR VEHICLE CONTROL

PUB. NO.: 57-036586 [JP 57036586 A]

PUBLISHED: February 27, 1982 (19820227)

INVENTOR(s): KATO TAKETOSHI

SUZUKI KOJI

NIIMI MASAYOSHI

APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 55-111926 [JP 80111926]

FILED: August 14, 1980 (19800814)

INTL CLASS: [3] H02P-003/08; **B60L-007/00**

JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.2 (TRANSPORTATION -- Motor Vehicles); 43.4 (ELECTRIC **POWER** -- Applications

JOURNAL: Section: E, Section No. 112, Vol. 06, No. 103, Pg. 166, June 12, 1982 (19820612)

ABSTRACT

PURPOSE: To precisely detect plugging **brake** condition without being affected by variations in temperature and **power** voltage, by a method wherein commutating **capacitor** voltage at the time of interrupting a thyristor chopper circuit is detected and the conductive rate of the chopper circuit is also detected.

CONSTITUTION: With **electromagnetic** contactors 3, 4 changed over at t=0, the voltage at the output point C of a reset soft start circuit 9 rises from the minimum value as shown in i, namely, the conductive rate of a chopper 1 also rises. The voltage at the output point B of a reference signal circuit 11 is decided by the voltage at a point C and the input voltage in a plugging detection circuit 14 decreases as shown in ii,

plugging **brake** starts at $t=t(\text{sub } 4)$ and when an armature winding 2b is in the, short-circuit condition, the **charge** voltage of a commutating **capacitor** 1d rises and the voltage after a vibrating phenomenon becomes more lower. Namely, the voltage (input voltage of the circuit 14) at the output point A in a **capacitor** voltage detector 12 at the time of interrupting the chopper 1 becomes lower than ii at $t=t(\text{sub } 4)$ as shown in iii, accordingly, detection is made to know that the circuit 14 is under plugging **brake** to act to decrease the electric potential at a point E and the conductive rate of the chopper 1 is controlled so as to be lower.

11/5/4 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013531739 **Image available**

WPI Acc No: 2001-015945/200102

XRPX Acc No: N01-012055

Energy accumulation and recuperation in motor vehicle, involves using capacitor bank for energy accumulation and recuperation of vehicle, in points of electric control system during motion and braking of vehicles

Patent Assignee: RIBAREV H T (RIBA-I); RIBAREV V H (RIBA-I)

Inventor: RIBAREV H T; RIBAREV V H

Number of Countries: 092 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200066388	A1	20001109	WO 2000BG12	A	20000428	200102 B
AU 200042778	A	20001117	AU 200042778	A	20000428	200111

Priority Applications (No Type Date): BG 103377 A 19990430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200066388	A1	E	20	B60L-011/00	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200042778 A B60L-011/00 Based on patent WO 200066388

Abstract (Basic): WO 200066388 A1

NOVELTY - The energy accumulation and recuperation of vehicle are done, in points of electric contact system using **capacitor** bank, during motion and **braking** of motor vehicle.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the energy accumulation and recuperation device.

USE - For energy accumulation and recuperation in different types of motor vehicles (MV) driven by electric motors or in combination with hybrid motor vehicles such as electric cars, trolley busses, trams, electric train.

ADVANTAGE - The **capacitor** fitness is not determined by number of **charge** -discharge cycles, as a result of which they are very much more durable than the accumulators. The efficiency of capacitors is much higher than that of accumulators and is equal to nearly 100%. Unlike the accumulators and fuel cells, capacitors can be **charged** and discharged exceptionally quickly for less than a second, which enables giving-off and intake of large currents towards and from the drive electric motors which in turn ensures great acceleration of the MV, without need of increasing the **power** of energy source. By using

capacitors, starting and reaching maximum speed are achieved without prior switching-ON of primary **power** source of motor vehicle. Enables greater freedom and maneuverability of the motor vehicle fed by electric contact systems, thereby reduces energy consumption for motor vehicle motion. Facilitates to remove the electric contact system above the basic part of route and replace it with separate points thereby avoids limitations concerning the height of transported cargo, thereby puts and end to spoiling the look of streets and squares with hanging electric contact system. The electric contact system is situated under the ground, thus it is naturally shielded and also additionally shielded through metal cover of cables thus avoiding **electromagnetic** pollution.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective diagram explaining connection in case of two wires of electric contact system situated transversely on the road.

pp; 20 DwgNo 2/3

Title Terms: ENERGY; ACCUMULATE; RECUPERATION; MOTOR; VEHICLE; **CAPACITOR** ; BANK; ENERGY; ACCUMULATE; RECUPERATION; VEHICLE; POINT; ELECTRIC; CONTROL ; SYSTEM; MOTION; **BRAKE** ; VEHICLE

Derwent Class: Q14; X16; X21; X22; X23

International Patent Class (Main): **B60L-011/00**

International Patent Class (Additional): B60M-007/00

File Segment: EPI; EngPI

16/5/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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07386529 **Image available**
BRAKE DEVICE FOR COMBINED OPERATION

PUB. NO.: 2002-255030 [JP 2002255030 A]
PUBLISHED: September 11, 2002 (20020911)
INVENTOR(s): TORII HISAFUMI
APPLICANT(s): MITSUBISHI ELECTRIC CORP
APPL. NO.: 2001-053487 [JP 200153487]
FILED: February 28, 2001 (20010228)
INTL CLASS: B61H-013/00; **B60L-007/24**

ABSTRACT

PROBLEM TO BE SOLVED: To provide an inexpensive **brake** device for combined operation allowing a **brake** instruction transmitting time to be shortened even in the combined operation of an air car and an electric car.

SOLUTION: In an electric car side re-reader 10, a **brake** instruction for the electric car is converted into an electric signal by using a specified conversion factor, and transmitted to an air car side re-reader 9 through an electric cable 11a. The air car side re-reader 9 converts the received electric signal inversely to a target **brake** pressure value by using a specified conversion factor. Then, according to an automatic **electromagnetic brake** system, a solenoid supply and exhaust valve 8 is **energized / deenergized** so that an actual BP pressure follows the target **brake** pressure value. Also when the **brake** instruction is transmitted from the air car to the electric car, the actual BP pressure is converted to an electric signal by using the conversion factor, and the electric signal is transmitted to an electric car side via an electric cable 12a.

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16/5/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
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05226868 **Image available**
MOTOR CONTROLLER

PUB. NO.: 08-182368 [JP 8182368 A]
PUBLISHED: July 12, 1996 (19960712)
INVENTOR(s): SUZUKI TETSUJI
APPLICANT(s): MEIDENSHA CORP [000610] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 06-327020 [JP 94327020]
FILED: December 28, 1994 (19941228)
INTL CLASS: [6] H02P-003/14; **B60L-007/00** ; **B60L-007/12** ; H02P-003/10
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.9 (TRANSPORTATION -- Other)

ABSTRACT

PURPOSE: To shorten the torqueless time following the operation stoppage of a chopper during a transitional period from regenerative **braking** to reverse rotation **braking** by shortening the transitional period as much as possible.

CONSTITUTION: A transitional period from regenerative **braking** to reverse rotation' **braking** is shortened by stopping the operation of a chopper by turning of a transistor TM a fixed period after the coil MG of a regenerative **electromagnetic** switch is **energized** following the completion of the regenerative **braking** and, at the same time, starting the operation of the chopper for reverse rotation **braking** by turning on the transistor TM immediately after the closing state of a contact mg is detected by means of an operation detecting section 12.

16/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

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04851017 **Image available**

ELECTRIC RAILCAR CONTROLLER

PUB. NO.: 07-143617 [JP 7143617 A]

PUBLISHED: June 02, 1995 (19950602)

INVENTOR(s): MORIYA SHUJI

APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 05-284606 [JP 93284606]

FILED: November 15, 1993 (19931115)

INTL CLASS: [6] B60L-015/20; **B60L-007/28**

JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 43.1 (ELECTRIC POWER -- Generation); 43.4 (ELECTRIC POWER -- Applications)

ABSTRACT

PURPOSE: To suppress the slipping in a state that a towing force is held by detecting that the rotating speed of a wheel is a predetermined value or less and **energizing** an **electromagnetic** coil disposed oppositely to rails when a power running command is output.

CONSTITUTION: An **electromagnetic** coil 3 is mounted at a truck 2 oppositely to rails 1, and **energized** by **energizing** means 4. Speed comparing means 6 detects a rotating speed V, compares it with a set predetermined speed value Vset, and outputs a '1' signal to an AND circuit 7 when it is the value Vset or less. Then, it inputs the command from command means 5 and further inputs the outputs from the means 6, it outputs the '1' signal to an AND circuit 8. Then, when the circuit 8 inputs the '1' signal, it outputs a close signal to a switching circuit 4. The circuit 8 outputs the close signal to the circuit 4 even when it inputs the emergency **brake** command B from the means 5. Thus, the slipping at a low speed at the time of power running can be effectively prevented.

16/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO

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04176402 **Image available**

BRAKE POWER RECOVERING UNIT FOR VEHICLE

PUB. NO.: 05-168102 [JP 5168102 A]

PUBLISHED: July 02, 1993 (19930702)

INVENTOR(s): SHIRATA TERUHIRO

TOZAWA SATORU

KURABAYASHI KEN

APPLICANT(s): ISUZU MOTORS LTD [000017] (A Japanese Company or Corporation)

JP (Japan)
APPL. NO.: 03-350101 [JP 91350101]
FILED: December 10, 1991 (19911210)
INTL CLASS: [5] B60L-007/00
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles)
JOURNAL: Section: M, Section No. 1498, Vol. 17, No. 574, Pg. 53, October 19, 1993 (19931019)

ABSTRACT

PURPOSE: To enhance generation efficiency or fuel consumption by interposing a retarder for recovering power **electromagnetically** from **brake** energy between a clutch and a speed change gear.

CONSTITUTION: Rotor 3 of retarder 2 is coupled with the output shaft of a clutch 13 for transmitting/interrupting engine torque, and a field section 41 is disposed on the inside of outer peripheral poles 31, 32 whereas an armature 4 is disposed on the outside thereof. When a vehicle is braked, the field section 41 is conducted to excite the poles 31, 32 thus taking out **brake** power from the armature 4. When the engine is started or accelerated, the field section 41 and the armature 4 are conducted to drive the retarder 2 through a motor thus **energizing** engine torque.

16/5/5 (Item 5 from file: 347)

DIALOG(R) File 347:JAPIO

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03407502 **Image available**

BRAKING APPARATUS OF ELECTRIC AUTOMOBILE

PUB. NO.: 03-070402 [JP 3070402 A]
PUBLISHED: March 26, 1991 (19910326)
INVENTOR(s): TSUJII HIROSHI
APPLICANT(s): TOYOTA MOTOR CORP [000320] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-202564 [JP 89202564]
FILED: August 03, 1989 (19890803)
INTL CLASS: [5] B60L-007/24
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles); 42.9 (ELECTRONICS -- Other); 43.4 (ELECTRIC POWER -- Applications)
JOURNAL: Section: M, Section No. 1123, Vol. 15, No. 228, Pg. 160, June 11, 1991 (19910611)

ABSTRACT

PURPOSE: To prolong the running distance of an electric automobile for one **charge** of a battery by a method wherein the shortage of a **braking** force obtained by regenerative **braking** and hydraulic **braking** against an instructed **braking** force is filled with a **braking** force supplied from an **electromagnetic braking** apparatus.

CONSTITUTION: In order to **brake** an electric automobile, a controller 20 determines a necessary **braking** force FA in accordance with the magnitude of a **brake** signal. On the other hand, the controller 20 obtains the **charging** status of a battery and determines the magnitude of a regenerative **braking** force in accordance with the **charging** status. Then a chopper circuit 22 is controlled by the controller 20 in accordance with a force value obtained by reducing the regenerative **braking** force and the hydraulic **braking** force of a hydraulic **braking** apparatus from the

necessary **braking** force. Therefore, an **electromagnetic brake** 24 generates a **braking** force which is determined by the controller 20 and the chopper circuit 22 in accordance with the necessary **braking** force and the regenerative force and **brakes** wheels through a decelerating mechanism 12 and a wheel shaft 10.

16/5/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

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00827805 **Image available**

BRAKING DEVICE FOR ROLLING STOCK CAR

PUB. NO.: 56-148105 [JP 56148105 A]

PUBLISHED: November 17, 1981 (19811117)

INVENTOR(s): NAGASE MINORU

IMANAKA SENJI

APPLICANT(s): NIPPON AIR BRAKE CO LTD [000401] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 55-051283 [JP 8051283]

FILED: April 17, 1980 (19800417)

INTL CLASS: [3] **B60L-007/24** ; B60T-013/74

JAPIO CLASS: 43.4 (ELECTRIC POWER -- Applications); 26.2 (TRANSPORTATION -- Motor Vehicles)

JOURNAL: Section: M, Section No. 114, Vol. 06, No. 33, Pg. 17,
February 27, 1982 (19820227)

ABSTRACT

PURPOSE: To complete accurately insufficiency of electric **braking** force with **braking** force of a liquid **brake** in the **braking** device of the rolling stock car by a method wherein when an electric **brake** becomes to invalid, output liquid pressure of an electropneumatic converter is made to zero.

CONSTITUTION: **Braking** commands applied to command lines 2, 3, 4 are transmitted to an electric **brake** equipment 13 through a D-A converter 12. The electropneumatic converter sends out a liquid having pressure corresponding to a detected value of electric **brake** torque to a calculating relay valve 9. While **electromagnetic** valves 6, 7, 8 send out liquids having pressure corresponding to the **brake** commands applied to the command lines 2, 3, 4 to the calculating relay valve 9. The calculating relay valve 9 sends out a liquid having pressure corresponding to insufficiency of **braking** force to a **brake** cylinder 10. When output of the electric **brake** becomes to zero, an electric **brake** invalid detector 15 makes the output of the electropneumatic converter 17 to zero to eliminate **hysteresis** .

16/5/7 (Item 7 from file: 347)

DIALOG(R)File 347:JAPIO

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00644730 **Image available**

LOAD REGULATION RESPONSE DEVICE FOR ELECTRIC RAILWAY

PUB. NO.: 55-132330 [JP 55132330 A]

PUBLISHED: October 15, 1980 (19801015)

INVENTOR(s): KAWARABAYASHI TSUNEO

APPLICANT(s): JAPAN STORAGE BATTERY CO LTD [000428] (A Japanese Company or

CORPORATION), JP (Japan)
 APPL. NO.: 54-036391 [JP 7936391]
 FILED: March 28, 1979 (19790328)
 INTL CLASS: [3] B60M-003/00; **B60L-007/12**
 JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 43.4 (ELECTRIC POWER -- Applications)
 JOURNAL: Section: M, Section No. 48, Vol. 04, No. 187, Pg. 35, December 23, 1980 (19801223)

ABSTRACT

PURPOSE: To enable a trolley voltage of the electric railway to be prevented from abnormally rising, by effectively absorbing regenerative powers of the electric car.

CONSTITUTION: In a thyristor switch device 7, a main thyristor 71 is controlled so as to be made in conduction when a voltage of the trolley wire rises due to the regenerative **braking** operation of an electric car. In this way, a **charging** current flows from the trolley wire to a storage battery 5. A rectifier device 6 can be operated by closing an **electromagnetic** switch 66 when the electric car is in operation of the power running. The device, feeding the power to the electric car cooperatively with railway rectifier devices 2, 2', causes the reception of AC power to moderate its peak.

16/5/8 (Item 1 from file: 350)

DIALOG(R) File 350:Derwent WPIX
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014220394 **Image available**

WPI Acc No: 2002-041092/200205

XRPX Acc No: N02-030551

Spring-set, electromagnetically released brake e.g. for servomotor or stepper motor, has coil bobbin that is secured against movement within electromagnetic assembly without bonding

Patent Assignee: WARNER ELECTRIC TECHNOLOGY INC (WARN-N)

Inventor: GUSTIN D C; LEONE M F; NELSON D J; PINK T C

Number of Countries: 021 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200114164	A1	20010301	WO 2000US23179	A	20000823	200205 B
US 6315088	B1	20011113	US 99379686	A	19990824	200205
EP 1210245	A1	20020605	EP 2000957732	A	20000823	200238
			WO 2000US23179	A	20000823	
JP 2003528260	W	20030924	WO 2000US23179	A	20000823	200365
			JP 2001518279	A	20000823	

Priority Applications (No Type Date): US 99379686 A 19990824

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200114164 A1 E 27 B60L-007/00

Designated States (National): JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

US 6315088 B1 B60L-007/00

EP 1210245 A1 E B60L-007/00 Based on patent WO 200114164

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

JP 2003528260 W 30 F16D-051/20 Based on patent WO 200114164

Abstract (Basic): WO 200114164 A1

NOVELTY - The **electromagnetically** released **brake** (20) includes a magnet shell (26) disposed about a first axis with a radially extending pole (80,82) around which an armature (38,30) is disposed, and biased radially outwardly by a spring (36,38). The **brake** also includes a bobbin (44,46) having a flange (122) extending radially inwardly relative to a second axis and a projection (120) extending axially relative to the second axis, the flange and projection being configured to engage the magnet shell and prevent radial and axial movement of the bobbin and coil.

DETAILED DESCRIPTION - The **brake** includes the magnet shell disposed about a first axis, the armature disposed radially outwardly of the radially extending pole and pivoting at a first axial end and a first engagement element, such as a **brake** shoe, coupled to the armature proximate a second axial end of the armature. The spring disposed about the pole biases the armature radially outwardly to urge the first engagement element towards a second engagement element such as a friction surface in a **brake** drum. A coil (40,42) is disposed about the pole and selectively **energized** to urge the armature radially inwardly and the first engagement element away from the second engagement element. The **brake** also includes the bobbin having a cylindrical body portion (112) disposed about a second axis and first and second discs (118) extending radially outwardly from first and second ends, respectively, of the body portion. The bobbin further includes the flange extending radially inwardly relative to the second axis and the projection extending axially relative to the second axis, the flange and projection are configured to engage the magnet shell and prevent radial and axial movement of the bobbin and coil.

An INDEPENDENT CLAIM is included for an **electromagnetic** assembly incorporating the coil bobbin.

USE - **Brake** can be used in connection with a servomotor or stepper motor, but also in a variety of motors in a wide variety of applications (not detailed).

ADVANTAGE - **Brake** requires a relatively small amount of current to release and the amount of backlash when the **brake** is set is reduced. Coil bobbin used in **brake** or other **electromagnetic** assembly restricts movement of bobbin and coil retained by bobbin without requiring bonding to a magnet pole or other structure within the assembly.

DESCRIPTION OF DRAWING(S) - The drawing shows a cross-sectional view of the **brake**.

- brake** (20)
- housing (22)
- end bell (24)
- magnet shell (26)
- armatures (28,30)
- springs (36,38)
- coils (40,42)
- bobbins (44,46)
- poles (80,82)
- projection (120)
- flange (122)
- pp; 27 DwgNo 2/13

Title Terms: SPRING; SET; **ELECTROMAGNET** ; RELEASE; **BRAKE** ; SERVOMOTOR; STEP; MOTOR; COIL; BOBBIN; SECURE; MOVEMENT; **ELECTROMAGNET** ; ASSEMBLE; BOND

Derwent Class: Q14; Q18; Q63; V06; X25

International Patent Class (Main): **B60L-007/00** ; F16D-051/20

International Patent Class (Additional): B60T-013/04; F16D-065/27

File Segment: EPI; EngPI

"16/5/9 " (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013383164 **Image available**

WPI Acc No: 2000-555102/200051

XRPX Acc No: N00-411484

Damping board for electromagnetic clutch, is slidably mounted axially in revolving shaft, so that gap between armature and damping board lining is made small

Patent Assignee: TSUBAKIMOTO CHAIN CO (TSUC)

Inventor: HIRAI T; SONODA M; SUZUKI K; TSUDA T

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000220674	A	20000808	JP 9924438	A	19990201	200051 B
US 6155386	A	20001205	US 99474156	A	19991229	200066

Priority Applications (No Type Date): JP 9924438 A 19990201

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000220674	A		7	F16D-065/21	
US 6155386	A			B60L-007/00	

Abstract (Basic): JP 2000220674 A

NOVELTY - A damping board (4) is slidably mounted axially on a revolving shaft. The gap between armature and damping board lining is made small. Opposing the end face of boss element (4b) of damping board, an annular groove (8b) is provided. During **brake** release, the baffle plate is arranged opposing the annular groove such that an elastic element in annular groove contacts the end face of the baffle plate.

DETAILED DESCRIPTION - A damping spring (5) energizes the damping board in the opposite direction. A cylindrical element adjusts the stroke length of the damping board.

USE - For **electromagnetic brake** .

ADVANTAGE - Provision of elastic element in annular groove reduces noise without increasing the forming accuracy. The impact noise during armature colliding with the lining can be reduced, thereby sound-proof is reliably carried out.

DESCRIPTION OF DRAWING(S) - The figure shows the functional sectional view of the **electromagnetic brake** .

Damping board (4)

Boss element (4b)

Spring (5)

Annular groove (8b)

pp; 7 DwgNo 7/7

Title Terms: DAMP; BOARD; **ELECTROMAGNET** ; CLUTCH; SLIDE; MOUNT; AXIS;

REVOLVING; SHAFT; SO; GAP; ARMATURE; DAMP; BOARD; LINING; MADE

Derwent Class: Q14; Q18; Q63; X25

International Patent Class (Main): **B60L-007/00** ; F16D-065/21

International Patent Class (Additional): B60T-013/04; F16D-019/00;

F16D-055/06

File Segment: EPI; EngPI

16/5/10 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2004 THOMSON DERWENT. All rts. reserv.

012820332 **Image available**

WPI Acc No: 1999-626563/199954

XRPX Acc No: N99-463300

Damping control apparatus of drive motor for electric wheel chair - includes control unit which energizes electromagnetic brake intermittently during emergency shut down and outputs damping command

Patent Assignee: SHIKOKU SEISAKUSHO KK (SHIK-N)

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11275705	A	19991008	JP 9889495	A	19980318	199954 B
JP 3421687	B2	20030630	JP 9889495	A	19980318	200343

Priority Applications (No Type Date): JP 9889495 A 19980318

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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JP 11275705	A	10	B60L-007/00		
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JP 3421687	B2	10	B60L-007/00	Previous Publ. patent JP 11275705	
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Abstract (Basic): JP 11275705 A

NOVELTY - A control unit (10) **energizes an electromagnetic brake** (22) intermittently, at the time of emergency shut-down and sends a damping command to another control unit (17). The control unit (17) controls the damping of rotations of drive motor (1).

USE - For electric sheet chair.

ADVANTAGE - A quick stoppage of the electric wheel chair is obtained. DESCRIPTION OF DRAWING(S) - The figure shows the control block diagram of the control apparatus for electric vehicle. (1) Drive motor; (10,17) Control unit; (22) **Electromagnetic brake**.

Dwg.1/17

Title Terms: DAMP; CONTROL; APPARATUS; DRIVE; MOTOR; ELECTRIC; WHEEL; CHAIR ; CONTROL; UNIT; **ENERGISE ; ELECTROMAGNET ; BRAKE ;** INTERMITTENT;

EMERGENCY; SHUT; DOWN; OUTPUT; DAMP; COMMAND

Derwent Class: Q14; S05; V06; X21

International Patent Class (Main): **B60L-007/00**

File Segment: EPI; EngPI

16/5/11 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012639054 **Image available**

WPI Acc No: 1999-445158/199938

XRAM Acc No: C99-131290

XRPX Acc No: N99-332005

Electromagnetic hysteresis yarn brake for a textile machine

Patent Assignee: SAURER ALLMA GMBH (SARR)

Inventor: SCHLAGENHAFT W

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19801334	A1	19990722	DE 1001334	A	19980116	199938 B
FR 2773923	A1	19990723	FR 99477	A	19990115	199938
DE 19801334	C2	20000525	DE 1001334	A	19980116	200030
US 6244395	B1	20010612	US 99229619	A	19990113	200135
IT 1306953	B	20011011	IT 99MI63	A	19990115	200232

Priority Applications (No Type Date): DE 1001334 A 19980116

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19801334	A1		5	H02K-049/10	
FR 2773923	A1			H02K-049/04	
DE 19801334	C2			H02K-049/10	
US 6244395	B1			B60L-007/00	
IT 1306953	B			H02K-000/00	

Abstract (Basic): DE 19801334 A1

NOVELTY - The **electromagnetic hysteresis brake** has at least one permanent magnet (5) near the magnet coil (4). It is deployed so that the magnetic field in the air gap (6) is formed by the combination of the magnetic flows of the **electromagnet** (4) and the permanent magnet (5). The magnetic flow of the **electromagnet** (4) is set by a value and by the polarity, so that it works with or against the magnetic flow of the permanent magnet.

DETAILED DESCRIPTION - The permanent magnet (5) is structured to deliver a **braking** torque of about 50% of the max. **braking** torque. The magnet coil (4) of the **electromagnet** is concentric within the permanent magnet (5). The magnet coil (4) of the **electromagnet** and the permanent magnet (5) can be axially in succession, with the permanent magnet next to the **hysteresis** ring (7).

USE - The **brake** assembly is especially for use as a yarn **brake** in a textile machine.

ADVANTAGE - The **brake** continues to act effectively in the event of a power supply failure, without an emergency current supply system.

DESCRIPTION OF DRAWING(S) - The drawing shows an axial section through the **hysteresis brake**.

magnet coil (4)

permanent magnet (5)

air gap (6)

hysteresis ring (7)

pp; 5 DwgNo 1/5

Title Terms: **ELECTROMAGNET ; HYSTERESIS ; YARN; BRAKE ; TEXTILE; MACHINE**

Derwent Class: F01; Q14; Q36; V06; X25

International Patent Class (Main): **B60L-007/00 ; H02K-000/00; H02K-049/04; H02K-049/10**

International Patent Class (Additional): B65H-059/10; B65H-059/16;

D01H-013/10

File Segment: CPI; EPI; EngPI

16/5/12 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012261244 **Image available**

WPI Acc No: 1999-067350/199906

XRPX Acc No: N99-050608

Control apparatus of electrical-eddy-current brake - has controller to reduce energising amount of electrical-eddy-current energising coil of each electromagnet of brake , when rotating speed of rotating drum of brake is below predetermined value

Patent Assignee: TOKYO BUHIN KOGYO CO LTD (TOKB-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10313504	A	19981124	JP 97119448	A	19970509	199906 B

Priority Applications (No Type Date): JP 97119448 A 19970509

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 10313504 A 4 B60L-007/28

Abstract (Basic): JP 10313504 A

The control apparatus has a rotating-speed sensor (11) to detect the rotating speed of the rotating drum (47) of an electrical-eddy-current **brake** (40). When the detected rotating speed is below a predetermined value, a controller (13) reduces the amount of **energising** to the electrical-eddy-current generating coil of each **electromagnet** of the **brake**.

USE - For large-sized vehicle e.g. truck.

ADVANTAGE - Prevents overheating of coil. Damping force of **brake** can be reduced gradually since damping is not cancelled suddenly, thus operator can get good damping feeling.

Dwg.1/3

Title Terms: CONTROL; APPARATUS; ELECTRIC; EDDY; CURRENT; **BRAKE** ; CONTROL; REDUCE; **ENERGISE** ; AMOUNT; ELECTRIC; EDDY; CURRENT; **ENERGISE** ; COIL; **ELECTROMAGNET** ; **BRAKE** ; ROTATING; SPEED; ROTATING; DRUM; **BRAKE** ; BELOW; PREDETERMINED; VALUE

Derwent Class: Q14; X13; X22

International Patent Class (Main): **B60L-007/28**

File Segment: EPI; EngPI

16/5/13 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012261243 **Image available**

WPI Acc No: 1999-067349/199906

XRPX Acc No: N99-050607

Control apparatus of electrical-eddy-current brake - has energising restraining device to reduce amount of energising to electrical-eddy-current energising coil of each electromagnet of brake , when detected temperature of coil exceeds predetermined value

Patent Assignee: TOKYO BUHIN KOGYO CO LTD (TOKB-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10313503	A	19981124	JP 97119447	A	19970509	199906 B

Priority Applications (No Type Date): JP 97119447 A 19970509

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 10313503 A 5 B60L-007/28

Abstract (Basic): JP 10313503 A

The control apparatus has a temperature sensor (11) which detects the temperature of an electrical-eddy current generating coil (51a,55a) of each **electromagnet** (51,58) of the electrical-eddy-current **brake** (40). When the detected temperature exceeds a predetermined value, an **energising** restraining device (12) reduces the amount of **energising** to each coil.

USE - For large-sized vehicle e.g. truck.

ADVANTAGE - Prevents overheating of coil. Enables operator to correspond to variation of damping force since damping force can be reduced gradually.

Dwg.1/3

Title Terms: CONTROL; APPARATUS; ELECTRIC; EDDY; CURRENT; **BRAKE** ;

ENERGISE ; RESTRAIN; DEVICE; REDUCE; AMOUNT; ENERGISE ; ELECTRIC; EDDY;
 CURRENT; ENERGISE ; COIL; ELECTROMAGNET ; BRAKE ; DETECT; TEMPERATURE;
 COIL; PREDETERMINED; VALUE
 Derwent Class: Q14; X13; X22
 International Patent Class (Main): B60L-007/28
 File Segment: EPI; EngPI

16/5/14 (Item 7 from file: 350)
 DIALOG(R)File 350:Derwent WPIX
 (c) 2004 THOMSON DERWENT. All rts. reserv.

010572431 **Image available**
 WPI Acc No: 1996-069384/199608
 XRAM Acc No: C96-022636
 XRPX Acc No: N96-058277

Electromagnetic hysteresis yarn brake - has adjustable air gap for
 simple setting

Patent Assignee: ZF FRIEDRICHSHAFEN AG (ZAHF)
 Inventor: SCHNEIDER R
 Number of Countries: 019 Number of Patents: 008
 Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4424457	A1	19960118	DE 4424457	A	19940712	199608 B
WO 9601779	A1	19960125	WO 95EP2633	A	19950707	199610
EP 771303	A1	19970507	EP 95926398	A	19950707	199723
			WO 95EP2633	A	19950707	
JP 10502518	W	19980303	WO 95EP2633	A	19950707	199819
			JP 96504114	A	19950707	
US 5873436	A	19990223	WO 95EP2633	A	19950707	199915
			US 97776002	A	19970110	
EP 771303	B1	19991117	EP 95926398	A	19950707	199953
			WO 95EP2633	A	19950707	
DE 59507255	G	19991223	DE 507255	A	19950707	200006
			EP 95926398	A	19950707	
			WO 95EP2633	A	19950707	
ES 2138228	T3	20000101	EP 95926398	A	19950707	200008

Priority Applications (No Type Date): DE 4424457 A 19940712

Cited Patents: Jnl.Ref; DE 3732766; DE 3828110

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4424457	A1		6	H02K-049/10	
DE 59507255	G			B65H-059/16	Based on patent EP 771303
					Based on patent WO 9601779
ES 2138228	T3			B65H-059/16	Based on patent EP 771303
WO 9601779	A1	G	19	B65H-059/16	
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL					
PT SE					
EP 771303	A1	G		B65H-059/16	Based on patent WO 9601779
Designated States (Regional): CH DE ES FR GB IT LI					
JP 10502518	W		14	H02K-049/06	Based on patent WO 9601779
US 5873436	A			B60L-007/00	Based on patent WO 9601779
EP 771303	B1	G		B65H-059/16	Based on patent WO 9601779
Designated States (Regional): CH DE ES FR GB IT LI					

Abstract (Basic): DE 4424457 A

The **electromagnetic hysteresis brake** , such as for a yarn
brake in a textile machine, has one adjustable air gap (12).

ADVANTAGE - The **brake** has a simple adjustment in relation to a unified torque.

Dwg.1/4

Title Terms: **ELECTROMAGNET ; HYSTERESIS ; YARN; BRAKE ; ADJUST; AIR; GAP ; SIMPLE; SET**

Derwent Class: F01; Q14; Q36; V06; X25

International Patent Class (Main): **B60L-007/00 ; B65H-059/16; H02K-049/06; H02K-049/10**

International Patent Class (Additional): B65H-059/10; B65H-059/18;

D01H-001/20; D01H-013/10

File Segment: CPI; EPI; EngPI

16/5/15 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009909551 **Image available**

WPI Acc No: 1994-177257/199422

XRPX Acc No: N94-139608

Hydraulic friction braking system for electrically propelled vehicle - incorporates pedal with characteristic feel imparted by compression spring in coupling to electromagnet -driven braking piston

Patent Assignee: ITT AUTOMOTIVE EURO GMBH (INTT)

Inventor: BALZ J; BILL K; HALASY-WIMMER G; KIRCHER D; KUNZE L; RIETH P E

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4239386	A1	19940526	DE 4239386	A	19921124	199422 B
FR 2698331	A1	19940527	FR 9313949	A	19931122	199424
US 5421643	A	19950606	US 93157742	A	19931124	199528
US 5551764	A	19960903	US 93157742	A	19931124	199641
			US 95403651	A	19950314	

Priority Applications (No Type Date): DE 4239386 A 19921124

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4239386	A1		12	B60T-013/74	
US 5421643	A		12	B60T-011/20	
US 5551764	A		13	B60T-011/20	Div ex application US 93157742 Div ex patent US 5421643
FR 2698331	A1			B60T-007/06	

Abstract (Basic): DE 4239386 A

The effect of regenerative **braking** by the traction motor is augmented by friction **brakes** applied by hydraulic pressure from a master cylinder (11) under electronic control (70). The actuating rod (6) coupled to the **brake** pedal is surrounded by a helical simulator spring (8) compressed between the end of its casing and an **electromagnet** (9) whose armature (13) surrounds the hydraulic piston rod (15).

The end of the armature impinges upon an annular flange (16) around the piston rod, causing the piston (54) to slide into the cylinder and expel fluid under pressure into the wheel **brake** lines.

ADVANTAGE - **Brake** pedal characteristic corresponds to that of standard combustion-engined car with slight **hysteresis** in interests of comfortable driving.

Dwg.3/5

Title Terms: **HYDRAULIC; FRICTION; BRAKE ; SYSTEM; ELECTRIC; PROPEL; VEHICLE; INCORPORATE; PEDAL; CHARACTERISTIC; FEEL; IMPART; COMPRESS;**

SPRING; COUPLE; **ELECTROMAGNET** ; DRIVE; **BRAKE** ; PISTON
Derwent Class: Q18; X21
International Patent Class (Main): B60T-007/06; B60T-011/20; B60T-013/74
International Patent Class (Additional): **B60L-007/26** ; B60L-011/00;
B60T-011/28; B60T-013/66
File Segment: EPI; EngPI

16/5/16 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009451496 **Image available**
WPI Acc No: 1993-145021/199318
XRPX Acc No: N93-110785

Electrically operated friction braking arrangement for motor vehicle - effects rapid deceleration from high speed to upper limit of range of conventional mechanical brake system

Patent Assignee: AKEBONO BRAKE IND CO LTD (AKEB); AKEBONO RES & DEV CENT LTD (AKEB)

Inventor: MORI M

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4235502	A1	19930429	DE 4235502	A	19921021	199318 B
US 5333706	A	19940802	US 92962099	A	19921016	199430

Priority Applications (No Type Date): JP 924141 A 19920113; JP 91273899 A 19911022

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4235502	A1	11		B60L-007/24	
US 5333706	A	10		B60T-008/50	

Abstract (Basic): DE 4235502 A

The **brake** disc (3) fixed to the axle (2) has rotor windings (5) secured near its centre in electrical contact with a brush (4) on the inside of the stator (1), whose windings (6) are arranged on both sides of the rotor (3).

A pair of friction pads (7) on the end of an electric actuator (8) are applied to the disc (3) by a control circuit (12) responsive to sensors of **brake** pedal movement (11) and road speed (15) above a min. value of the latter.

ADVANTAGE - Highly reliable system requires no piping and can be controlled with sensitivity by driver.

Dwg.1/4

Title Terms: ELECTRIC; OPERATE; FRICTION; **BRAKE** ; ARRANGE; MOTOR; VEHICLE; EFFECT; RAPID; DECELERATE; HIGH; SPEED; UPPER; LIMIT; RANGE; CONVENTION; MECHANICAL; **BRAKE** ; SYSTEM

Derwent Class: Q14; Q18; X22

International Patent Class (Main): **B60L-007/24** ; B60T-008/50

International Patent Class (Additional): B60T-008/32; B60T-008/60;

B60T-013/74

File Segment: EPI; EngPI

16/5/17 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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009071351 **Image available**

WPI Acc No: 1992-198758/199224

XRPX Acc No: N92-150279

Railway eddy current-type braking system - uses electromagnetic coils mounted on bogies with pole tips charge following that of wheel track

Patent Assignee: IVANOV M V (IVAN-I)

Inventor: IVANOV M V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1678663	A1	19910923	SU 4477003	A	19880711	199224 B

Priority Applications (No Type Date): SU 4477003 A 19880711

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1678663	A1		4	B60L-007/28	

Abstract (Basic): SU 1678663 A

The system consists of a magnetic core (1) mounted on the side (2) of the waggon bogie. Between the supporting lugs of the core (1) and the side (2) there is a thin layer of diamagnetic material and the core is fixed to the sides (2) by means of staples. The core terminates in poles (N) and (S) with terminals (4) near the surface of the wheels. At each pole there is a coil (6). The ends of the coils are connected to a power line under the waggon and also to the waggon body.

In each waggon, there are emergency points with control buttons with two normally open contacts. On pressing the buttons, one pair of contacts sends power to the **electromagnetic** circuit whilst the second initiates an alarm signal and indicates to the guard, which emergency point was used. When the current is supplied to the coil (6) a circuit is created through the rails (7) and the magnetic field prevents the wheels from turning.

ADVANTAGE - Simplification of the installation. Bul.35/23.9.91.

Dwg.1/5

Title Terms: RAILWAY; EDDY; CURRENT; TYPE; **BRAKE** ; SYSTEM; **ELECTROMAGNET** ; COIL; MOUNT; BOGIE; POLE; TIP; **CHARGE** ; FOLLOW; WHEEL; TRACK

Derwent Class: Q14; X23

International Patent Class (Main): **B60L-007/28**

File Segment: EPI; EngPI

16/5/18 (Item 11 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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008763359 **Image available**

WPI Acc No: 1991-267373/199136

XRPX Acc No: N91-204134

Electromagnetic braking device - comprises electromagnetic coils, rotor consisting of conductors, switching device connected to EM coils and controller

Patent Assignee: FUJITSU LTD (FUIT); TOKYO BUHIN KOGYO CO LTD (TOKB-N);

TOKYO BUHIN KOGIYO CO (TOKB-N)

Inventor: AKIMA H; ISHIKURA Y; KISHI T; AKIMA Y

Number of Countries: 005 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9112657	A	19910822				199136 B
JP 3239199	A	19911024	JP 9034871	A	19900214	199149
JP 3239200	A	19911024	JP 9034872	A	19900214	199149

EP 466941	A	19920122	EP 91903821	A	19910214	199204
EP 466941	A4	19930505	EP 91903821	A	19910000	199526
US 5485901	A	19960123	WO 91JP177	A	19910214	199610
			US 91768659	A	19911011	
EP 466941	B1	19961218	EP 91903821	A	19910214	199704
			WO 91JP177	A	19910214	
DE 69123651	E	19970130	DE 623651	A	19910214	199710
			EP 91903821	A	19910214	
			WO 91JP177	A	19910214	

Priority Applications (No Type Date): JP 9034872 A 19900214; JP 9034871 A 19900214

Cited Patents: JP 1303100; JP 58075403; DE 3108732; FR 2389267

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5485901	A		20	H02P-015/00	Based on patent WO 9112657
EP 466941	B1 E	22		H02P-015/00	Based on patent WO 9112657
Designated States (Regional): DE FR GB					
DE 69123651	E			H02P-015/00	Based on patent EP 466941
					Based on patent WO 9112657

Abstract (Basic): WO 9112657 A

Without controlling the increase or decrease of the number of **electromagnetic** coils (22) to be driven, the current control of the **electromagnetic** coils are performed including the temperature of a rotor (23) in a controlled system and thereby, environmental influence due to heat and deformation of the rotor are suppressed to the utmost. The device comprises the **electromagnetic** coils (22) provided on the stationary part side of a power feeder, the rotor (23) consisting of conductors provided on the rotating shaft side of the power feeder, switching device (24) connected to the **electromagnetic** coils, and a controller (15) for outputting switching data to the switching means on the basis of external control data.

Further, the device is constituted so that the controller controls the ON/OFF ratios of the currents flowing through the **electromagnetic** coils via the switching means. (57pp Dwg.No.4/14)%

Title Terms: **ELECTROMAGNET** ; **BRAKE** ; DEVICE; COMPRISE; **ELECTROMAGNET** ; COIL; ROTOR; CONSIST; CONDUCTOR; SWITCH; DEVICE; CONNECT; EM; COIL; CONTROL

Derwent Class: Q14; X13

International Patent Class (Main): H02P-015/00

International Patent Class (Additional): B60L-007/28

File Segment: EPI; EngPI

16/5/19 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004653525

WPI Acc No: 1986-156867/198625

XRFX Acc No: N86-116689

Electrical brake for car - uses eddy currents between disc rotating with axle and pole shoes and stator fixed to stationary carrier

Patent Assignee: LABAVIA SGE SARL (LABA-N)

Inventor: DANCYGIER G; MARANDET A

Number of Countries: 014 Number of Patents: 018

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 3542372	A	19860612	DE 3542372	A	19851130	198625 B

BE 903794	A	19860605	BE 903794	A	19851205	198625
GB 2168440	A	19860618	GB 8529963	A	19851205	198625
FR 2574228	A	19860606				198629
SE 8505755	A	19860606				198630
AU 8550831	A	19860612				198631
NL 8503358	A	19860701				198631
JP 61185062	A	19860818	JP 85274262	A	19851205	198639
BR 8506109	A	19860819				198640
ZA 8509324	A	19861205				198712
US 4668886	A	19870526	US 85804770	A	19851205	198723
CH 664653	A	19880315				198816
GB 2168440	B	19880608				198823
DE 3542372	C	19891026				198943
CA 1261383	A	19890926				198945
IT 1201391	B	19890127				199120
SE 468190	B	19921116	SE 855755	A	19851205	199249
NL 192965	B	19980202	NL 853358	A	19851205	199810

Priority Applications (No Type Date): FR 8418549 A 19841205

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3542372	A		19		
NL 192965	B		8	H02K-049/04	
SE 468190	B			H02K-049/02	

Abstract (Basic): DE 3542372 A

The electrical **brake** has a stator which consists of a number of separate poles of alternate polarity and a cylindrical core of ferromagnetic material carrying the winding, arranged on a carrier plate and conveniently spaced on a pitch circle of the required diameter. The carrier plate and the poles are rigidly attached to the outer bearing housing of the shaft which has to be braked. The axes of the cores point in the same direction as the shaft. The ends of the cores are closed by a shoe plate, shaped as a trapezium, and the plates can all rotate about the axis of a screw which holds a plate, core and winding to the carrier plate. The shaped plates all rotate by an eccentric peg. in unison, when the **brakes** are applied.

On the outside of the stator poles there is the induction disc of ferromagnetic material, rotating with the shaft and about the same axis and past the poles and the poles shoes, separated only by a narrow ring-shaped air gap. Normally the pole shoes are not aligned symmetrically with respect to the cores and the windings, so that they do not cover the windings, allowing the magnetic energy to escape. Most of the magnetic energy is used **braking** and **energising** of the windings and to prevent the rotation of the shaft.

ADVANTAGE - Improved **braking** moment.

Title Terms: ELECTRIC; **BRAKE**; CAR; EDDY; CURRENT; DISC; ROTATING; AXLE; POLE; SHOE; STATOR; FIX; STATIONARY; CARRY

Derwent Class: Q14; X11; X22

International Patent Class (Main): H02K-049/02; H02K-049/04

International Patent Class (Additional): **B60L-007/28**; G01M-017/06;

G05F-000/00; G05G-000/00; H02K-007/10; H02P-003/04; H05K-049/02

File Segment: EPI; EngPI

16/5/20 (Item 13 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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003248915

WPI Acc No: 1982-A6266E/198203

High speed rail vehicle electromagnetic brake - has additional coils perpendicular to direction of travel between adjacent electromagnet poles to reduce power consumption

Patent Assignee: UNIV ROST (UYRO)

Inventor: DOROZHKIN V N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 818927	B	19810407				198203 B

Priority Applications (No Type Date): SU 2762874 A 19790507

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
SU 818927	B	3		

Abstract (Basic): SU 818927 B

High speed rail vehicle **electromagnetic brake** has additional windings with coils perpendicular to direction of motion of the train wired into the **electromagnet** field coil circuit. The additional windings are located between the pole pieces of adjacent **electromagnets**. This reduces power consumption and variation of **braking** force by converting energy of the moving mass into electrical energy.

During **braking** the **electromagnetic brake** is brought as close as possible to the rail and electrical circuit closed. Current passes through main windings (2), additional windings (5) being de- **energised** by the diode in the circuit.

The magnetic field generated by windings (2) closes through the rail surface and generates eddy currents creating an additional magnetic field resulting in magnetised sections on the rail beyond poles (4). An e.m.f. induced in windings (5) which, when it exceeds that of the external source, or on switching of the external source, will result in main winding feed from additional windings. This will generate a field coincident with that in the pole pieces and will be unaffected by direction of travel. Bul.13/7.4.81. (3pp Dwg.No.1

Title Terms: HIGH; SPEED; RAIL; VEHICLE; **ELECTROMAGNET** ; **BRAKE** ; ADD; COIL; PERPENDICULAR; DIRECTION; TRAVEL; ADJACENT; **ELECTROMAGNET** ; POLE; REDUCE; POWER; CONSUME

Derwent Class: Q14; Q21; X23

International Patent Class (Additional): **B60L-007/28** ; B61H-007/08

File Segment: EPI; EngPI

16/5/21 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001882569

WPI Acc No: 1978-B1802A/197806

Eddy current brake assembly - has electromagnets with hermetically sealed solenoids clipped to brake holder

Patent Assignee: LABAVIA-SGE (LABA-N)

Number of Countries: 008 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 2733898	A	19780202				197806 B
SE 7708744	A	19780227				197811
FR 2360162	A	19780331				197817
US 4135106	A	19790116				197904
AT 7705536	A	19790415				197918

CH 617547	A	19800530	198024
CA 1088985	A	19801104	198048
GB 1585804	A	19810311	198111

Priority Applications (No Type Date): FR 7623474 A 19760730

Abstract (Basic): DE 2733898 A

The electrodynamic **brake** has a series of solenoid coils (2) arranged around the stator support and acting on a rotating ferromagnetic plate coupled to the drive shaft. The magnets are **energised** to provide the dynamic retardation and are themselves potted in waterproof housings.

The waterproof housings comprise plastic skins (3) with moulded ends (6) so that they can be clipped into recesses in the stator support. The dynamic **brake** is mounted on the drive shaft without any special protection for the magnets.

Title Terms: EDDY; CURRENT; **BRAKE** ; ASSEMBLE; **ELECTROMAGNET** ; HERMETIC; SEAL; SOLENOID; CLIP; **BRAKE** ; HOLD

Derwent Class: Q14; V02; X11; X12; X21; X23; X24

International Patent Class (Additional): **B60L-007/28** ; H01F-005/06;

H01F-015/10; H02K-049/04

File Segment: EPI; EngPI

16/5/22 (Item 15 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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001241005

WPI Acc No: 1975-C4793W/197509

Electromagnetic **operated clutches and brakes - stray magnetic fields are minimised using toroidal shape magnetic field**

Patent Assignee: AUTOMATIC RES DEV (AUTO-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 3866729	A	19750218				197509 . B

Priority Applications (No Type Date): US 73369502 A 19730613

Abstract (Basic): US 3866729 A

The **electromagnet** of an **electromagnetically** operated clutch or **brake** has an annular core with radial pole pieces carrying the **energising** coils, and an armature providing a pair of pole faces arranged to cooperate respectively with the ends of the pole pieces and an annular end face of the core to complete the magnetic circuit. With such an arrangement, in which the coils of the **electromagnet** are symmetrically arranged around the axis, the components of the stray magnetic field cancel one another out. This prevents such problems as e.g. the collection of abrasive particles where they will do harm.

Title Terms: **ELECTROMAGNET** ; OPERATE; CLUTCH; **BRAKE** ; STRAY; MAGNETIC; FIELD; MINIMISE; TOROIDAL; SHAPE; MAGNETIC; FIELD

Derwent Class: Q14; Q63; X21; X23; X25

International Patent Class (Additional): **B60L-007/00** ; F16D-027/04

File Segment: EPI; EngPI

16/5/23 (Item 1 from file: 371)

000992937 **Image present**

Titre: GROUPE MOTOPROPULSEUR COMPORTANT DES MOYENS DE RECUPERATION DE

PUISSANCE EN DECELERATION

Deposant: RENAULT (No. SIREN: 780129987)

Nom et Adresse du Deposant: RENAULT - Deposant - 34 QUAI DU POINT DU JOUR 92109 BOULOGNE BILLANCOURT (FR-92109)

Nom Inventeurs: KERETLI FAHRI - 8 RUE MME DE SEVIGNE 78320 LE MESNIL SAINT DENIS (FR-78320); DEWAELE GILLES - 5 RUE F LAUBEUF 78400 CHATOU (FR-78400); GUYOT DOMINIQUE - 1 SQUARE DU DRAGON 78150 LE CHESNAY (FR-78150)

Nom Mandataire: CABINET PHILIPPE KOHN

Nature de Publication: Brevet

Information de Brevet et Priorites (Pays, Numero, Date):

Numero Publication: FR 2803253 - 20010706

Numero Depot: FR 9916727 - 19991230

Priorites: FR 9916727 - 19991230

Rapport de Recherche Preliminaire (Brevet/Reference, Code de Pertinence):

Cites dans le rapport de recherche

Cites par le deposant

EP 915236 A (Cat. X)

US 5899828 A (Cat. A)

US 5255650 A (Cat. A)

EP 965474 A (Cat. A)

US 5899828 A

Resume:

L'invention propose un groupe motopropulseur, comportant un moteur thermique (12) dote d'un systeme (14) d'injection et de soupapes commandes par une unite (18) de commande asservie par une pedale (36) d'accelerateur, et du type dans lequel un module electronique (34) pilote un alternateur (26) et l'unite (18) pour controler le systeme (14) d'injection et les soupapes, pour etabliir, en reponse au lacher de la pedale (36), une configuration determinee selon laquelle le systeme d'injection (14) est inactif et les soupapes sont ouvertes pour reduire le frein moteur, caracterise en ce que le module electronique (34) peut, dans la configuration determinee, etabliir un mode de recuperation de puissance en deceleration dans lequel, en fonction d'un bilan de valeurs de puissances mecaniques et/ ou electriques pouvant etre echangees dans l'ensemble du groupe motopropulseur, le module electronique (34) pilote l'unite (18) de commande du moteur pour ouvrir les soupapes et commander la **charge** de la batterie (32) de stockage.

Classification Internationale (Principale): B60K-026/00

Classification Internationale: **B60L-007/18** ; B60L-011/12

Descripteurs Francais: VEHICULE AUTOMOBILE; FREIN MOTEUR; ALTERNATEUR; MODULE ELECTRONIQUE; RECUPERATION; SOUPEPE; COMMANDE **ELECTROMAGNETIQUE** ; MOTEUR THERMIQUE

Descripteurs Anglais: AUTOMOTIVE VEHICLE; GENERATION; ENGINE **BRAKE** ; ELECTRONIC MODULE; RECOVERY; VALVE; **ELECTROMAGNETIC** CONTROL; THERMAL ENGINE

S1 12 AU=(NYGREN L? OR NYGREN, L?)
 S2 270668 ELECTROMAGNET? OR ELECTRO()MAGNET?
 S3 208283 BRAKING OR BRAKE OR BRAKES
 S4 1945368 POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
 S5 1551879 CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
 S6 891430 ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
 ? s s1 and s2

12 S1
 270668 S2
 S7 0 S1 AND S2
 ? s s2 and s3
 270668 S2
 208283 S3
 S8 11097 S2 AND S3
 ? s s8 and s4 and s5
 11097 S8
 1945368 S4
 1551879 S5
 S9 300 S8 AND S4 AND S5
 ? ds

Set	Items	Description
S1	12	AU=(NYGREN L? OR NYGREN, L?)
S2	270668	ELECTROMAGNET? OR ELECTRO()MAGNET?
S3	208283	BRAKING OR BRAKE OR BRAKES
S4	1945368	POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
S5	1551879	CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
S6	891430	ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
S7	0	S1 AND S2
S8	11097	S2 AND S3
S9	300	S8 AND S4 AND S5
? s s9 and s6		
	300	S9
	891430	S6
S10	69	S9 AND S6
? s s10 and ic=b60l?		
	69	S10
	40305	IC=B60L?
S11	4	S10 AND IC=B60L?
? t 11/5/all		

11/5/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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04169580 **Image available**

AUXILIARY **POWER** SUPPLY FOR VEHICLE

PUB. NO.: 05-161280 [JP 5161280 A]
 PUBLISHED: June 25, 1993 (19930625)
 INVENTOR(s): SHIRATA TERUHIRO
 APPLICANT(s): ISUZU MOTORS LTD [000017] (A Japanese Company or Corporation), JP (Japan)
 APPL. NO.: 03-339787 [JP 91339787]
 FILED: November 28, 1991 (19911128)
 INTL CLASS: [5] H02J-007/14; **B60L-007/20** ; **B60L-011/18** ; F02N-011/08; H01G-009/00; H02P-015/00
 JAPIO CLASS: 42.9 (ELECTRONICS -- Other); 21.2 (ENGINES & TURBINES, PRIME MOVERS -- Internal Combustion); 26.2 (TRANSPORTATION -- Motor Vehicles); 42.1 (ELECTRONICS -- Electronic Components); 43.1 (ELECTRIC **POWER** -- Generation

JOURNAL: Section: E, Section No. 1446, Vol. 17, No. 566, Pg. 88,
October 13, 1993 (19931013)

ABSTRACT

PURPOSE: To efficiently use the **power** from an **electromagnetic** type retarder that is outputted during the **braking** operation of a vehicle as the **power** supply for **charging** a battery by using a **capacitor** having a large **capacitance**.

CONSTITUTION: An output from a retarder 1 for regenerating the **power** during the **braking** operation of a vehicle is supplied to an electrical double-layer **capacitor** 5 through a rectifier 16 and a diode 52 is connected in such a direction that **charge** is led to a battery 3 from the **capacitor** 5. Therefore, the diode 52 is reversely biased under the normal condition and **power** supply from the battery 3 by self-discharge of the **capacitor** 5 is suspended, but when an engine is started, a relay B closes due to the operation of a key switch 6 and the **capacitor** 5 is **charged** by the battery 3.

11/5/2 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

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00902002 **Image available**

METHOD AND APPARATUS FOR DETECTING PLUGGING OF ELECTRIC ROLLING STOCK

PUB. NO.: 57-052302 [JP 57052302 A]

PUBLISHED: March 27, 1982 (19820327)

INVENTOR(s): SUZUKI KOJI

NIIMI MASAYOSHI

KATO TAKETOSHI

APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 55-126340 [JP 80126340]

FILED: September 11, 1980 (19800911)

INTL CLASS: [3] B60L-007/00

JAPIO CLASS: 43.4 (ELECTRIC **POWER** -- Applications); 26.2 (TRANSPORTATION -- Motor Vehicles

JOURNAL: Section: M, Section No. 142, Vol. 06, No. 126, Pg. 60, July 10, 1982 (19820710)

ABSTRACT

PURPOSE: To detect a **braking** condition through plugging accurately by determining reference voltage from a current detecting means by currents flowing under a locking condition of a motor during the operating time of a monostable multivibrator.

CONSTITUTION: When a switch not shown is changed over, **electromagnetic** contactors 5, 6 are each switched to the constantly-closed contact b side and the constantly-opened contact c side, and brought to plugging conditions, and currents by electromotive force flow through armature winding 3 through a plugging diode 7. In this case, the output of a comparator 20 is (1) because the **charging** voltage of a soft start **capacitor** 18 is small - that is, a conduction ratio is smaller than set value - due to the functioning of a clear circuit, etc. not shown responding to the action of a changeover switch owing to just after changing over. Since the magnitude of source currents during the operating period of the monostable multivibrator 16 becomes larger than reference value on account of the short circuit of the armature winding 3 by the

diode 7 at the same time, the output of comparators 13, 49 is both (1), base currents are supplied to a transistor 51 and the transistor 51 is at on; and plugging can be detected.

11/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

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00886286 **Image available**

ELECTRIC MOTOR VEHICLE CONTROL

PUB. NO.: 57-036586 [JP 57036586 A]

PUBLISHED: February 27, 1982 (19820227)

INVENTOR(s): KATO TAKETOSHI

SUZUKI KOJI

NIIMI MASAYOSHI

APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 55-111926 [JP 80111926]

FILED: August 14, 1980 (19800814)

INTL CLASS: [3] H02P-003/08; **B60L-007/00**

JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.2 (TRANSPORTATION -- Motor Vehicles); 43.4 (ELECTRIC **POWER** -- Applications

JOURNAL: Section: E, Section No. 112, Vol. 06, No. 103, Pg. 166, June 12, 1982 (19820612)

ABSTRACT

PURPOSE: To precisely detect plugging **brake** condition without being affected by variations in temperature and **power** voltage, by a method wherein commutating **capacitor** voltage at the time of interrupting a thyristor chopper circuit is detected and the conductive rate of the chopper circuit is also detected.

CONSTITUTION: With **electromagnetic** contactors 3, 4 changed over at $t=0$, the voltage at the output point C of a reset soft start circuit 9 rises from the minimum value as shown in i, namely, the conductive rate of a chopper 1 also rises. The voltage at the output point B of a reference signal circuit 11 is decided by the voltage at a point C and the input voltage in a plugging detection circuit 14 decreases as shown in ii, plugging **brake** starts at $t=t(\text{sub } 4)$ and when an armature winding 2b is in the short-circuit condition, the **charge** voltage of a commutating **capacitor** 1d rises and the voltage after a vibrating phenomenon becomes more lower. Namely, the voltage (input voltage of the circuit 14) at the output point A in a **capacitor** voltage detector 12 at the time of interrupting the chopper 1 becomes lower than ii at $t=t(\text{sub } 4)$ as shown in iii, accordingly, detection is made to know that the circuit 14 is under plugging **brake** to act to decrease the electric potential at a point E and the conductive rate of the chopper 1 is controlled so as to be lower.

11/5/4 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013531739 **Image available**

WPI Acc No: 2001-015945/200102

XRFX Acc No: N01-012055

Energy accumulation and recuperation in motor vehicle, involves using capacitor bank for energy accumulation and recuperation of vehicle, in

. points of electric control system during motion and braking of vehicles

Patent Assignee: RIBAREV H T (RIBA-I); RIBAREV V H (RIBA-I)

Inventor: RIBAREV H T; RIBAREV V H

Number of Countries: 092 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200066388	A1	20001109	WO 2000BG12	A	20000428	200102 B
AU 200042778	A	20001117	AU 200042778	A	20000428	200111

Priority Applications (No Type Date): BG 103377 A 19990430

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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WO 200066388	A1	E	20	B60L-011/00	
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Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH
CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE
KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200042778	A			B60L-011/00	Based on patent WO 200066388
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Abstract (Basic): WO 200066388 A1

NOVELTY - The energy accumulation and recuperation of vehicle are done, in points of electric contact system using **capacitor** bank, during motion and **braking** of motor vehicle.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the energy accumulation and recuperation device.

USE - For energy accumulation and recuperation in different types of motor vehicles (MV) driven by electric motors or in combination with hybrid motor vehicles such as electric cars, trolley busses, trams, electric train.

ADVANTAGE - The **capacitor** fitness is not determined by number of **charge** -discharge cycles, as a result of which they are very much more durable than the accumulators. The efficiency of capacitors is much higher than that of accumulators and is equal to nearly 100%. Unlike the accumulators and fuel cells, capacitors can be **charged** and discharged exceptionally quickly for less than a second, which enables giving-off and intake of large currents towards and from the drive electric motors which in turn ensures great acceleration of the MV, without need of increasing the **power** of energy source. By using capacitors, starting and reaching maximum speed are achieved without prior switching-ON of primary **power** source of motor vehicle. Enables greater freedom and maneuverability of the motor vehicle fed by electric contact systems, thereby reduces energy consumption for motor vehicle motion. Facilitates to remove the electric contact system above the basic part of route and replace it with separate points thereby avoids limitations concerning the height of transported cargo, thereby puts and end to spoiling the look of streets and squares with hanging electric contact system. The electric contact system is situated under the ground, thus it is naturally shielded and also additionally shielded through metal cover of cables thus avoiding **electromagnetic** pollution.

DESCRIPTION OF DRAWING(S) - The figure shows the perspective diagram explaining connection in case of two wires of electric contact system situated transversely on the road.

pp; 20 DwgNo 2/3

Title Terms: ENERGY; ACCUMULATE; RECUPERATION; MOTOR; VEHICLE; **CAPACITOR** ;
BANK; ENERGY; ACCUMULATE; RECUPERATION; VEHICLE; POINT; ELECTRIC; CONTROL
; SYSTEM; MOTION; **BRAKE** ; VEHICLE

Derwent Class: Q14; X16; X21; X22; X23

International Patent Class (Main): B60L-011/00
International Patent Class (Additional): B60M-007/00
File Segment: EPI; EngPI
? ds

Set	Items	Description
S1	12	AU=(NYGREN L? OR NYGREN, L?)
S2	270668	ELECTROMAGNET? OR ELECTRO()MAGNET?
S3	208283	BRAKING OR BRAKE OR BRAKES
S4	1945368	POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
S5	1551879	CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
S6	891430	ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
S7	0	S1 AND S2
S8	11097	S2 AND S3
S9	300	S8 AND S4 AND S5
S10	69	S9 AND S6
S11	4	S10 AND IC=B60L?
? s s9 and ic=b60l?		
	300	S9
	40305	IC=B60L?
S12	19	S9 AND IC=B60L?
? s s12 not s11		
	19	S12
	4	S11
S13	15	S12 NOT S11
? t 13/5/all		

13/5/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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03957009 **Image available**
ELECTRIC VEHICLE

PUB. NO.: 04-322109 [JP 4322109 A]
PUBLISHED: November 12, 1992 (19921112)
INVENTOR(s): SHIGETA NAOHIRO
APPLICANT(s): SANYO ELECTRIC CO LTD [000188] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-090726 [JP 9190726]
FILED: April 22, 1991 (19910422)
INTL CLASS: [5] B60L-015/20 ; A63B-055/08; B60L-007/08 ; G05D-001/02
JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor Vehicles); 30.2 (MISCELLANEOUS GOODS -- Sports & Recreation); 42.9 (ELECTRONICS -- Other); 43.1 (ELECTRIC POWER -- Generation) ; 43.4 (ELECTRIC POWER -- Applications)
JOURNAL: Section: M, Section No. 1388, Vol. 17, No. 155, Pg. 5, March 26, 1993 (19930326)

ABSTRACT

PURPOSE: To carry out smooth traveling by controlling the rotational speed of a motor based on a speed obtained from the operating amount of accelerator pedal and a **brake** amount obtained from the operating amount of **brake** lever and applying **electromagnetic brake** if the **brake** amount is higher than a predetermined level.

CONSTITUTION: Operating amount of accelerator pedal is detected through a variable **resistor** 21 in order to detect 16 a speed amount which is then

fed to a speed control circuit 18. Operating amount of **brake** lever is detected through a variable **resistor** 22 and then fed through a **brake** amount decision circuit 19 to a speed control circuit 18. When the output from the **brake** amount detecting circuit 17 exceeds a predetermined level, the **brake** amount decision circuit 19 makes a switching to an **electromagnetic brake** 20 which then delivers an output to the speed control circuit 18. The speed control circuit 18 controls rotation of a motor 2 based on the speed amount and the **brake** amount. Consequently, smooth traveling is realized and safety is enhanced.

13/5/2 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

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03706260 **Image available**

TORQUE CONTROLLER FOR RETARDER

PUB. NO.: 04-071360 [JP 4071360 A]

PUBLISHED: March 05, 1992 (19920305)

INVENTOR(s): TAKAHASHI HISAYUKI

APPLICANT(s): ISUZU MOTORS LTD [000017] (A Japanese Company or Corporation)
, JP (Japan)

APPL. NO.: 02-182388 [JP 90182388]

FILED: July 10, 1990 (19900710)

INTL CLASS: [5] H02K-049/02; **B60L-007/28**

JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.1 (TRANSPORTATION
-- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles

JOURNAL: Section: E, Section No. 1222, Vol. 16, No. 285, Pg. 100, June
24, 1992 (19920624)

ABSTRACT

PURPOSE: To adjust the currents of an **electromagnet** and to keep damping torque set by rotatably supporting a magnet support plate supporting the **electromagnet** to the fixed shaft of a **brake** disc against resilient force and mounting a rheostat operated by relative rotation between the fixed shaft and the magnet support plate.

CONSTITUTION: When a switch 3 is closed when a **brake** disc 11 is turned, **electromagnets** 6 are excited, and damping torque is obtained by the eddy currents of the **brake** disc 11. Torque reaction reverse to the direction of rotation received by a magnet support plate 5 is supported by a fixed shaft 12 through springs 13. When actual damping torque is larger than a set value, the magnet support plate 5 is rotated in the direction opposite to the direction of rotation against the force of the springs 13, relative rotational displacement is generated between a sliding resistor 7 and an armature 10a, and the **resistance** value of the **resistor** 7 is increased. The **electromagnetic** force of the **electromagnets** 6 is weakened, and damping torque is set at positions where damping torque set by the armature 10a and the springs 13 supporting torque reaction received by the magnet support plate 5 balance. Accordingly, damping torque required is given to the **brake** disc 11, and damping torque is kept at the set value.

13/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO

(c) 2004 JPO & JAPIO. All rts. reserv.

03483004 **Image available**

GENERATIVE **BRAKE** CONTROL CIRCUIT FOR ELECTRIC ROLLING STOCK

PUB. NO.: 03-145904 [JP 3145904 A]
PUBLISHED: June 21, 1991 (19910621)
INVENTOR(s): TAKAHARA HIDEAKI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
(Japan)
APPL. NO.: 01-283197 [JP 89283197]
FILED: October 31, 1989 (19891031)
INTL CLASS: [5] B60L-007/06
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION
-- Railways); 43.4 (ELECTRIC POWER -- Applications
JOURNAL: Section: M, Section No. 1158, Vol. 15, No. 366, Pg. 123,
September 13, 1991 (19910913)

ABSTRACT

PURPOSE: To sustain effective function of generative **brake** even in low speed region by increasing the **resistance** of a **brake resistor** when the running speed makes a transition from high speed region to low speed region through generative **brake** operation.

CONSTITUTION: Generative **brake** resistors R1, R2 consume DC power fed from an inverter 7 side and produce **brake** force. Generative **brake** functions upon closure of an **electromagnetic** contactor 15. When the running speed of an electric rolling stock exceeds a predetermined level, an **electromagnetic** contactor 15 short-circuits the **resistor** R2. Consequently, **brake resistance** is decreased for a high running speed whereas it is increased for a low running speed. By such arrangement, the inverter 7 can be operated upto the low rotation region of an induction motor 9.

13/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO
(c) 2004 JPO & JAPIO. All rts. reserv.

03221701 **Image available**
AUTOMATIC TRAIN STOPPER

PUB. NO.: 02-197201 [JP 2197201 A]
PUBLISHED: August 03, 1990 (19900803)
INVENTOR(s): KITAHARA FUMIO
SOINOSAWA KAZUO
APPLICANT(s): HIGASHI NIPPON RIYOKAKU TETSUDO KK [491190] (A Japanese
Company or Corporation), JP (Japan)
APPL. NO.: 01-016660 [JP 8916660]
FILED: January 26, 1989 (19890126)
INTL CLASS: [5] B60L-003/08 ; B61L-003/12; B61L-023/00
JAPIO CLASS: 43.4 (ELECTRIC POWER0 -- Applications); 26.1 (TRANSPORTATION
-- Railways); 37.2 (SAFETY -- Traffic); 44.9 (COMMUNICATION
-- Other
JOURNAL: Section: M, Section No. 1038, Vol. 14, No. 486, Pg. 63,
October 23, 1990 (19901023)

ABSTRACT

PURPOSE: To operate an alarm bell and an emergency **brake** instantaneously by changing the frequency of a receiver to that of a second ground unit through an onboard unit when a train passes through the second ground unit even if the train starts erroneously.

CONSTITUTION: When a train stopped at a position in front of a signal

passes through a second ground unit, the second ground unit operating with frequency of 123kHz is coupled **electromagnetically** with an onboard unit 5, and the oscillation frequency of a receiver 6 is changed from 105kHz to 123kHz which is the resonance frequency of the second ground unit. A relay ECR functions upon tripping of a relay MR based on the changed frequency while simultaneously a **capacitor** connected in parallel with a relay UR is separated through the functioned contact of a relay ECBR upon tripping thereof. When an alarm bell is sounded through a relay MPR which trips simultaneously with the relay MR and the relay ECBR and the relay UR is tripped simultaneously, an emergency **brake** can be operated simultaneously.

13/5/5 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

(c) 2004 JPO & JAPIO. All rts. reserv.

01255003 **Image available**

BRAKE SYSTEM FOR CONVEYING VEHICLE

PUB. NO.: 58-192403 [JP 58192403 A]
PUBLISHED: November 09, 1983 (19831109)
INVENTOR(s): IZAWA HIROSHI
APPLICANT(s): SHIN KOBE ELECTRIC MACH CO LTD [000120] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 57-073852 [JP 8273852]
FILED: April 30, 1982 (19820430)
INTL CLASS: [3] **B60L-007/24** ; B60T-013/74
JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles); 43.4 (ELECTRIC **POWER** -- Applications
JOURNAL: Section: M, Section No. 276, Vol. 08, No. 35, Pg. 119, February 15, 1984 (19840215)

ABSTRACT

PURPOSE: To reduce the shock of vibration at the stopping time by simultaneously employing an electric **brake** and an **electromagnetic brake** .

CONSTITUTION: A **resistor** 4 which is connected in series with the contact of a relay 6 is connected in parallel with an armature 2 as a load of the armature 2 in a conveying vehicle which is controlled by a control circuit 3, the contact of a relay 6 is closed by a **brake** signal, and an electric **brake** is applied. When the fact that the voltage of the armature 2 is lowered to the prescribed value is detected by a detector 5, the contact of the relay 6 is opened to release the electric **brake** , the contact of a relay 7 is simultaneously opened, an **electromagnetic brake** 8 is operated, and completely stopped.

13/5/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

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01255002 **Image available**

BRAKE SYSTEM FOR CONVEYING VEHICLE

PUB. NO.: 58-192402 [JP 58192402 A]
PUBLISHED: November 09, 1983 (19831109)
INVENTOR(s): IZAWA HIROSHI

APPLICANT(s): SHIN KOBE ELECTRIC MACH CO LTD [000120] (A Japanese Company
or Corporation), JP (Japan)
APPL. NO.: 57-073851 [JP 8273851]
FILED: April 30, 1982 (19820430)
INTL CLASS: [3] **B60L-007/24** ; B60T-013/74
JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.1 (TRANSPORTATION
-- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles); 43.4
(ELECTRIC **POWER** -- Applications
JOURNAL: Section: M, Section No. 276, Vol. 08, No. 35, Pg. 119,
February 15, 1984 (19840215)

ABSTRACT

PURPOSE: To reduce the shock of vibration at the stopping time by
simultaneously employing an electric **brake** and an **electromagnetic
brake** .

CONSTITUTION: A **resistor** 4 which is connected in series with the contact
of a relay 6 is connected in parallel with an armature 2 as a load of the
armature 2 in a conveying vehicle which is controlled by a control circuit
3, the contact of a relay 6 is closed by a **brake** signal, and an electric
brake is applied. When a timer 5 which is operated by the **brake** signal
is elapsed in the prescribed period of time, the contact of the relay 6 is
opened to release the electric **brake** , and the contact of a relay 7 is
simultaneously opened, an **electromagnetic brake** 8 is operated and
completely stopped.

13/5/7 (Item 7 from file: 347)

DIALOG(R) File 347:JAPIO

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00760703 **Image available**

METHOD AND APPARATUS FOR CONTROLLING ELECTRIC CAR

PUB. NO.: 56-081003 [JP 56081003 A]
PUBLISHED: July 02, 1981 (19810702)
INVENTOR(s): KATO TAKETOSHI
TORII TAKASHI
NIIMI MASAYOSHI
APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or
Corporation), JP (Japan)
APPL. NO.: 54-155258 [JP 79155258]
FILED: November 30, 1979 (19791130)
INTL CLASS: [3] **B60L-007/00** ; H02P-003/10
JAPIO CLASS: 43.4 (ELECTRIC **POWER** -- Applications); 43.1 (ELECTRIC
POWER -- Generation
JOURNAL: Section: M, Section No. 89, Vol. 05, No. 151, Pg. 126,
September 24, 1981 (19810924)

ABSTRACT

PURPOSE: To detect the plugging operation precisely by providing the
current detecting circuit which detects the difference between the current
flowing via a field winding and the current flowing in a plugging diode and
employing the output of this circuit.

CONSTITUTION: When the output value (the potential at a point C) of a
differential amplifier 12 which amplifies the output signal of the current
detecting circuit 11 becomes the value lower than the plugging detecting
level, a comparator 25 detects the plugging **brake** . A **capacitor** 24 is
discharged through a **resistor** 31, and the increase in the difference

between the current IF flowing in a field winding 2 and the current IP flowing in a plugging diode 7 can be prevented. When the potential at the point C reaches the set value (overcurrent limiting value) in the current limiting circuit 32, a chopper 1 is cut off by a chopper control circuit 10. Furthermore, when the plugging diode 7 is shorted and failed, the failure is detected by a shorting failure detecting circuit 33, a transistor 40 is cut off, and the main circuit is stopped by the operation of an **electromagnetic** contactor 5.

13/5/8 (Item 8 from file: 347)

DIALOG(R)File 347:JAPIO

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00466518

REGENERATIVE **BRAKING** CIRCUIT SYSTEM FOR ELECTRIC CAR

PUB. NO.: 54-118518 [JP 54118518 A]

PUBLISHED: September 14, 1979 (19790914)

INVENTOR(s): SHIRAI KIICHIROU

APPLICANT(s): FUJI ELECTRIC CO LTD [000523] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 53-024787 [JP 7824787]

FILED: March 04, 1978 (19780304)

INTL CLASS: [2] **B60L-007/12** ; H02P-003/14

JAPIO CLASS: 43.1 (ELECTRIC **POWER** -- Generation); 26.1 (TRANSPORTATION -- Railways); 43.4 (ELECTRIC **POWER** -- Applications

JOURNAL: Section: E, Section No. 152, Vol. 03, No. 139, Pg. 164, November 17, 1979 (19791117)

ABSTRACT

PURPOSE: To suppress voltage increase by connecting a flywheel thyristor in parallel with a series circuit consisting of a main field coil and a main smoothing reactor such that it is fired upon detection of an increase of the input **capacitor** voltage at the time of loss of the regenerative load.

CONSTITUTION: When the regenerative load is lost during the regenerative **braking**, the voltage across an input **capacitor** 1 is increased to fire a flywheel thyristor 11, whereby **electromagnetic** energy stored in the main field coil and main smoothing reactor is circulated through the thyristor switch to prevent the load current from flowing into the filter **capacitor** so as to suppress the voltage increase.

13/5/9 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015724767 **Image available**

WPI Acc No: 2003-786967/200374

XRAM Acc No: C03-216977

XRPX Acc No: N03-630631

Electromagnet used in electrically actuated vehicle brake , comprises polymer impregnated powder metal core containing coil

Patent Assignee: TEKONSHA ENG CO (TEKO-N); RICHESON W E (RICH-I)

Inventor: RICHESON W E

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 20030094337	A1	20030522	US 2001964086	A	20010926	200374 B

CA 2388629 A1 20030326 CA 2388629 A 20020531 200374

Priority Applications (No Type Date): US 2001964086 A 20010926

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030094337	A1		14	B60L-007/00	
CA 2388629	A1	E		F16D-065/00	

Abstract (Basic): US 20030094337 A1

NOVELTY - An **electromagnet** (120) comprises a polymer impregnated powder metal core containing a coil. The powder metal core has a Young's modulus of elasticity of 6.8-29.5 million psi.

DETAILED DESCRIPTION - An **electromagnet** comprises a polymer impregnated powder metal core containing a coil; and an injection molding material attached to the powder metal core. The powder metal core has a Young's modulus of elasticity of 6.8-29.5 million psi. The injection molding material comprises a donor material having an elasticity greater than 2 million psi that provides a hard protective wear resistant surface layer, a composite adhering coating layer and an interior layer that has the ability to act in concert with shearing of the composite adhering coating.

USE - Used in an electrically actuated vehicle **brake**.

ADVANTAGE - The invention has less variance between units, increased frictional drag, reduced wear and the **brake** drum disk during use and has an increased **resistance** to moisture. It also withstand at much higher surface speeds while producing higher frictional drag.

DESCRIPTION OF DRAWING(S) - The figure is an elevational view of a drum **brake** assembly.

Electromagnet (120)

pp; 14 DwgNo 1/6

Title Terms: **ELECTROMAGNET** ; ELECTRIC; ACTUATE; VEHICLE; **BRAKE** ; COMPRISE ; POLYMER; IMPREGNATE; POWDER; METAL; CORE; CONTAIN; COIL

Derwent Class: A88; Q14; Q18; Q63; V02; X21; X22

International Patent Class (Main): **B60L-007/00** ; F16D-065/00

International Patent Class (Additional): B60T-013/74; H01F-003/00;

H01F-007/06

File Segment: CPI; EPI; EngPI

13/5/10 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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015200347 **Image available**

WPI Acc No: 2003-260881/200326

XRPX Acc No: N03-206844

Electric vehicle controller e.g. for electric train applies voltage to capacitor or secondary battery connected in series with input terminal of electric power converter in direction same as that of DC power source

Patent Assignee: HITACHI LTD (HITA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2002369304	A	20021220	JP 2001175415	A	20010611	200326 B

Priority Applications (No Type Date): JP 2001175415 A 20010611

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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Abstract (Basic): JP 2002369304 A

NOVELTY - The controller connects a **capacitor** or a secondary battery, in series with the input terminal of electric **power** converter, such that the voltage application direction of **capacitor** or secondary battery (Vc) is the same as that of the DC **power** source (Va) (1), when the regenerative **brake power** is below a prescribed value.

USE - Especially for regenerative **brake** control of electric vehicle such as electric train.

ADVANTAGE - Improves the effectiveness of regeneration energy and enables achievement of necessary **brake** -force characteristics, using simple technique. Reduces the generation of **electromagnetic** sound.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of the electric vehicle controller.

DC **power** source (1)

pp; 6 DwgNo 1/4

Title Terms: ELECTRIC; VEHICLE; CONTROL; ELECTRIC; TRAIN; APPLY; VOLTAGE;

CAPACITOR ; SECONDARY; BATTERY; CONNECT; SERIES; INPUT; TERMINAL;

ELECTRIC; **POWER** ; CONVERTER; DIRECTION; DC ; **POWER** ; SOURCE

Derwent Class: Q14; X12; X13; X23

International Patent Class (Main): **B60L-007/12**

International Patent Class (Additional): H02M-007/797; H02P-003/18

File Segment: EPI; EngPI

13/5/11 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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011677370 **Image available**

WPI Acc No: 1998-094279/199809

XRPX Acc No: N98-075511

Power output device for vehicle - has single power supply part which delivers current to both motors individually and braking part adjusts rotary speed of prime mover

Patent Assignee: TOYOTA JIDOSHA KK (TOYT)

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9322311	A	19971212	JP 96163686	A	19960603	199809 B
JP 3180671	B2	20010625	JP 96163686	A	19960603	200138

Priority Applications (No Type Date): JP 96163686 A 19960603

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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JP 9322311	A		27	B60L-011/14	
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JP 3180671	B2		26	B60L-011/14	Previous Publ. patent JP 9322311
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Abstract (Basic): JP 9322311 A

The device includes an output shaft (56) which is rotated by a prime mover (50). A pair of outer and inner rotors (32,34) of a clutch electric motor (30) are coupled with the output shaft and a drive shaft (22) respectively. The clutch motor exchanges **power** between the output shaft and the drive shaft, through an **electromagnetic** coupling between the outer and inner rotors. The torque of the **power** output of an assistant motor (40) is transferred to the drive shaft. A first electric motor drive circuit (91) controls the relative rotary for the outer and inner rotors. A second drive circuit (92) does drive control

of the assistant motor. A battery (94) supplies electric **power**, which drives the clutch and assistant electric motors. An output shaft **braking** unit (57) retards the output shaft speed of the prime mover.

ADVANTAGE - Reduces internal pressure of prime mover. Increases movement **resistance** of prime mover and increases torque output from assistant motor.

Dwg.2/24

Title Terms: **POWER** ; OUTPUT; DEVICE; VEHICLE; SINGLE; **POWER** ; SUPPLY; PART; DELIVER; CURRENT; MOTOR; INDIVIDUAL; **BRAKE** ; PART; ADJUST; ROTATING; SPEED; PRIME; MOVE
Derwent Class: Q13; Q14; Q52; X11; X13; X21
International Patent Class (Main): **B60L-011/14**
International Patent Class (Additional): B60K-006/02; F02D-029/06; H02K-007/11; H02P-015/00
File Segment: EPI; EngPI

13/5/12 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010213729 **Image available**

WPI Acc No: 1995-114983/199515

XRPX Acc No: N95-090747

Dynamic braking grid resistor configuration for electric traction motor vehicle - has braking grid having individual resistive grid elements interconnected in manner to reduce electromagnetic interference generated by high current flowing through grid elements

Patent Assignee: GENERAL ELECTRIC CO (GENE)

Inventor: KUMAR A K

Number of Countries: 009 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 5396214	A	19950307	US 93140805	A	19931021	199515 B
EP 649768	A1	19950426	EP 94307315	A	19941005	199521
AU 9475707	A	19950511	AU 9475707	A	19941007	199527
CA 2118064	A	19950422	CA 2118064	A	19941013	199529
BR 9404165	A	19950627	BR 944165	A	19941020	199534
JP 7236201	A	19950905	JP 94254037	A	19941020	199544
TW 266189	A	19951221	TW 94103460	A	19940419	199610

Priority Applications (No Type Date): US 93140805 A 19931021

Cited Patents: FR 2296927

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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US 5396214	A		11	H01C-003/00	
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EP 649768	A1 E		13	B60L-007/02	
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Designated States (Regional): DE FR IT

JP 7236201	A		10	B60L-007/06	
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AU 9475707	A			B60L-007/02	
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CA 2118064	A			B60L-007/02	
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BR 9404165	A			B60L-007/00	
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TW 266189	A			B60L-003/00	
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Abstract (Basic): US 5396214 A

The dynamic **braking** grid arrangement reduces EMI generated by dynamic or partial regenerative electrical **braking** of an electric traction motor powered vehicle coupled to a wayside **power** source by a third rail or catenary. The grid arrangement comprises a high- **power** dissipation **resistance** grid having a number of separately defined

resistance elements, each having a generally elongate configuration. A mounting device supports each of the grid elements adjacent to and parallel with each other of the elements.

A number of electrical conduction devices connect the elements into an electrical circuit such that current passes through at least one element in a first direction and through at least one adjacent element in a second opposite direction such that EMI generated by any one element is cancelled by EMI generated by an adjacent element.

ADVANTAGE - Minimises induced currents in wayside conductors and rails.

Dwg.2/7

Title Terms: DYNAMIC; **BRAKE** ; GRID; **RESISTOR** ; CONFIGURATION; ELECTRIC; TRACTION; MOTOR; VEHICLE; **BRAKE** ; GRID; INDIVIDUAL; **RESISTOR** ; GRID; ELEMENT; INTERCONNECT; MANNER; REDUCE; **ELECTROMAGNET** ; INTERFERENCE; GENERATE; HIGH; CURRENT; FLOW; THROUGH; GRID; ELEMENT

Derwent Class: Q14; W02; X12; X13; X21; X23

International Patent Class (Main): **B60L-003/00** ; **B60L-007/00** ;

B60L-007/02 ; **B60L-007/06** ; H01C-003/00

International Patent Class (Additional): **B60L-007/22** ; H01C-001/16;

H01C-003/02; H01C-003/10

File Segment: EPI; EngPI

13/5/13 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009617421 **Image available**

WPI Acc No: 1993-310970/199339

XRPX Acc No: N93-239349

Electric locomotive braking system - has rate of current change sensor and logic AND-gate connected to insertion unit

Patent Assignee: DON POLY (DONE)

Inventor: BUTEV V S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1766724	A1	19921007	SU 4809650	A	19900402	199339 B

Priority Applications (No Type Date): SU 4809650 A 19900402

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1766724	A1		3	B60L-007/24	

Abstract (Basic): SU 1766724 A

The electrical locomotive is propelled by an electric traction motor. The motor windings (4,6) are fed by a **power** source via a current collector (2). When the current supply network becomes disturbed, then the signals of min. current and speed transducers (1,7) change the current via AND-gate (9) for the input of insertion unit (3), which connects the **braking resistor** (8) across the motor. During stoppage of the electric locomotive, the winding (4) voltage is lowered, and the winding (10) brings the **electromagnetic brake** into a working condition, and prevents the locomotive from taking up a self-propelled condition.

USE/ADVANTAGE - In **braking** system for electric locomotive with increased working reliability. Bul.37/07.10.92

Dwg.1/1

Title Terms: ELECTRIC; LOCOMOTIVE; **BRAKE** ; SYSTEM; RATE; CURRENT; CHANGE; SENSE; LOGIC; AND-GATE; CONNECT; INSERT; UNIT

Derwent Class: Q14; X23
International Patent Class (Main): B60L-007/24
File Segment: EPI; EngPI

13/5/14 (Item 6 from file: 350)

DIALOG(R) File 350:Derwent WPIX
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001902447

WPI Acc No: 1978-D1689A/197816

Electromagnetic braking circuit for rotating machine in vehicle - has
semiconductor chopper regulator controlling current through
electromagnetic coil

Patent Assignee: SEVCON LTD (SEVC-N)

Inventor: GURWICZ

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
FR 2358774	A	19780317				197816 B

Priority Applications (No Type Date): GB 7628961 A 19760712

Abstract (Basic): FR 2358774 A

The **electromagnetic braking** circuit, for large rotating machines in vehicles, has the **electromagnet** excitation coil (2) in series with a semiconductor current regulator (5) (chopper) and a protective **resistor** across the **dc** supply. The regulator is controlled by a differential amplifier (11) coupled by one input to a rheostate (13) and by its other input to the coil.

The amplifier compares the voltage characterising the disc angular **braking** with the voltage representing the max. **braking**. The amplifier controls the regulator such that the ratio of its opened/closed times diminishes if the disc **braking** exceeds the max.

Title Terms: **ELECTROMAGNET** ; **BRAKE** ; CIRCUIT; ROTATING; MACHINE; VEHICLE;
SEMICONDUCTOR; CHOPPER; REGULATE; CONTROL; CURRENT; THROUGH;
ELECTROMAGNET ; COIL

Derwent Class: Q14; Q18; X11; X21; X23

International Patent Class (Additional): B60L-007/28 ; B60T-001/06;

B60T-008/02; H02K-049/04

File Segment: EPI; EngPI

13/5/15 (Item 7 from file: 350)

DIALOG(R) File 350:Derwent WPIX
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001449968

WPI Acc No: 1976-B2858X/197606

Resistive braking system for asynchronous motor - uses difference between electromagnetic and resistive braking powers

Patent Assignee: MOSC ENERGETICS COL (MOEN-R)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 466598	A	19750716				197606 B

Priority Applications (No Type Date): SU 1496009 A 19701125

Abstract (Basic): SU 466598 A

The regulation is precise, the utilization of the **braking** rheostat is ameliorated. The control signal is formed as a function of **electromagnetic power** difference, which is passed to the motor and the **power** required by the **braking** rheostat. Under **braking** condition of asynchronous motor (1), which is fed by a frequency converter (2), it works as a generator. It receives excitation **power** from synchronous generator (3), which acts as a synchronous compensator, driven by the diesel engine (4) and passes an active **power** to the **braking** rheostat (5). To obtain a required **braking** characteristic, the generator voltage (3) is regulated as a frequency function. The **power** dissipated in the rheostat (5) depends on the **resistance** magnitude and generator voltage.

Title Terms: **RESISTOR ; BRAKE ; SYSTEM; ASYNCHRONOUS; MOTOR; DIFFER; ELECTROMAGNET ; RESISTOR ; BRAKE ; POWER**

Derwent Class: Q14; X13; X21; X23

International Patent Class (Additional): 1B60L-011/08 ; H02P-003/22

File Segment: EPI; EngPI

?

PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES

? ds

Set	Items	Description
S1	12	AU=(NYGREN L? OR NYGREN, L?)
S2	270668	ELECTROMAGNET? OR ELECTRO()MAGNET?
S3	208283	BRAKING OR BRAKE OR BRAKES
S4	1945368	POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
S5	1551879	CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
S6	891430	ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
S7	0	S1 AND S2
S8	11097	S2 AND S3
S9	300	S8 AND S4 AND S5
S10	69	S9 AND S6
S11	4	S10 AND IC=B60L?
S12	19	S9 AND IC=B60L?
S13	15	S12 NOT S11

? s s8 and s6

11097 S8

891430 S6

S14 1577 S8 AND S6

? s s14 and ic=b60l-007?

1577 S14

4348 IC=B60L-007?

S15 26 S14 AND IC=B60L-007?

? s s15 not s12

26 S15

19 S12

S16 23 S15 NOT S12

? t 16/5/all

16/5/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

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07386529 **Image available**

BRAKE DEVICE FOR COMBINED OPERATION

PUB. NO.: 2002-255030 [JP 2002255030 A]

PUBLISHED: September 11, 2002 (20020911)

INVENTOR(s): TORII HISAFUMI

APPLICANT(s): MITSUBISHI ELECTRIC CORP

APPL. NO.: 2001-053487 [JP 200153487]
FILED: February 28, 2001 (20010228)
INTL CLASS: B61H-013/00; B60L-007/24

ABSTRACT

PROBLEM TO BE SOLVED: To provide an inexpensive **brake** device for combined operation allowing a **brake** instruction transmitting time to be shortened even in the combined operation of an air car and an electric car.

SOLUTION: In an electric car side re-reader 10, a **brake** instruction for the electric car is converted into an electric signal by using a specified conversion factor, and transmitted to an air car side re-reader 9 through an electric cable 11a. The air car side re-reader 9 converts the received electric signal inversely to a target **brake** pressure value by using a specified conversion factor. Then, according to an automatic **electromagnetic brake** system, a solenoid supply and exhaust valve 8 is **energized / deenergized** so that an actual BP pressure follows the target **brake** pressure value. Also when the **brake** instruction is transmitted from the air car to the electric car, the actual BP pressure is converted to an electric signal by using the conversion factor, and the electric signal is transmitted to an electric car side via an electric cable 12a.

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16/5/2 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

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05226868 **Image available**
MOTOR CONTROLLER

PUB. NO.: 08-182368 [JP 8182368 A]
PUBLISHED: July 12, 1996 (19960712)
INVENTOR(s): SUZUKI TETSUJI
APPLICANT(s): MEIDENSHA CORP [000610] (A Japanese Company or Corporation),
JP (Japan)
APPL. NO.: 06-327020 [JP 94327020]
FILED: December 28, 1994 (19941228)
INTL CLASS: [6] H02P-003/14; B60L-007/00 ; B60L-007/12 ; H02P-003/10
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.9 (TRANSPORTATION -- Other)

ABSTRACT

PURPOSE: To shorten the torqueless time following the operation stoppage of a chopper during a transitional period from regenerative **braking** to reverse rotation **braking** by shortening the transitional period as much as possible.

CONSTITUTION: A transitional period from regenerative **braking** to reverse rotation **braking** is shortened by stopping the operation of a chopper by turning of a transistor TM a fixed period after the coil MG of a regenerative **electromagnetic** switch is **energized** following the completion of the regenerative **braking** and, at the same time, starting the operation of the chopper for reverse rotation **braking** by turning on the transistor TM immediately after the closing state of a contact mg is detected by means of an operation detecting section 12.

16/5/3 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO
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04851017 **Image available**
ELECTRIC RAILCAR CONTROLLER

PUB. NO.: 07-143617 [JP 7143617 A]
PUBLISHED: June 02, 1995 (19950602)
INVENTOR(s): MORIYA SHUJI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP
 (Japan)
APPL. NO.: 05-284606 [JP 93284606]
FILED: November 15, 1993 (19931115)
INTL CLASS: [6] B60L-015/20; **B60L-007/28**
JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 43.1 (ELECTRIC POWER --
 Generation); 43.4 (ELECTRIC POWER -- Applications)

ABSTRACT

PURPOSE: To suppress the slipping in a state that a towing force is held by detecting that the rotating speed of a wheel is a predetermined value or less and **energizing** an **electromagnetic** coil disposed oppositely to rails when a power running command is output.

CONSTITUTION: An **electromagnetic** coil 3 is mounted at a truck 2 oppositely to rails 1, and **energized** by **energizing** means 4. Speed comparing means 6 detects a rotating speed V, compares it with a set predetermined speed value Vset, and outputs a '1' signal to an AND circuit 7 when it is the value Vset or less. Then, it inputs the command from command means 5 and further inputs the outputs from the means 6, it outputs the '1' signal to an AND circuit 8. Then, when the circuit 8 inputs the '1' signal, it outputs a close signal to a switching circuit 4. The circuit 8 outputs the close signal to the circuit 4 even when it inputs the emergency **brake** command B from the means 5. Thus, the slipping at a low speed at the time of power running can be effectively prevented.

16/5/4 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO
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04176402 **Image available**
BRAKE POWER RECOVERING UNIT FOR VEHICLE

PUB. NO.: 05-168102 [JP 5168102 A]
PUBLISHED: July 02, 1993 (19930702)
INVENTOR(s): SHIRATA TERUHIRO
 TOZAWA SATORU
 KURABAYASHI KEN
APPLICANT(s): ISUZU MOTORS LTD [000017] (A Japanese Company or Corporation)
 , JP (Japan)
APPL. NO.: 03-350101 [JP 91350101]
FILED: December 10, 1991 (19911210)
INTL CLASS: [5] **B60L-007/00**
JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION --
 Railways); 26.2 (TRANSPORTATION -- Motor Vehicles)
JOURNAL: Section: M, Section No. 1498, Vol. 17, No. 574, Pg. 53,
 October 19, 1993 (19931019)

ABSTRACT

PURPOSE: To enhance generation efficiency or fuel consumption by

interposing a retarder for recovering power **electromagnetically** from **brake** energy between a clutch and a speed change gear.

CONSTITUTION: Rotor 3 of retarder 2 is coupled with the output shaft of a clutch 13 for transmitting/interrupting engine torque, and a field section 41 is disposed on the inside of outer peripheral poles 31, 32 whereas an armature 4 is disposed on the outside thereof. When a vehicle is braked, the field section 41 is conducted to excite the poles 31, 32 thus taking out **brake** power from the armature 4. When the engine is started or accelerated, the field section 41 and the armature 4 are conducted to drive the retarder 2 through a motor thus **energizing** engine torque.

16/5/5 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

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03407502 **Image available**

BRAKING APPARATUS OF ELECTRIC AUTOMOBILE

PUB. NO.: 03-070402 [JP 3070402 A]

PUBLISHED: March 26, 1991 (19910326)

INVENTOR(s): TSUJII HIROSHI

APPLICANT(s): TOYOTA MOTOR CORP [000320] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 01-202564 [JP 89202564]

FILED: August 03, 1989 (19890803)

INTL CLASS: [5] **B60L-007/24**

JAPIO CLASS: 43.1 (ELECTRIC POWER -- Generation); 26.1 (TRANSPORTATION -- Railways); 26.2 (TRANSPORTATION -- Motor Vehicles); 42.9 (ELECTRONICS -- Other); 43.4 (ELECTRIC POWER -- Applications)

JOURNAL: Section: M, Section No. 1123, Vol. 15, No. 228, Pg. 160, June 11, 1991 (19910611)

ABSTRACT

PURPOSE: To prolong the running distance of an electric automobile for one **charge** of a battery by a method wherein the shortage of a **braking** force obtained by regenerative **braking** and hydraulic **braking** against an instructed **braking** force is filled with a **braking** force supplied from an **electromagnetic braking** apparatus.

CONSTITUTION: In order to **brake** an electric automobile, a controller 20 determines a necessary **braking** force FA in accordance with the magnitude of a **brake** signal. On the other hand, the controller 20 obtains the **charging** status of a battery and determines the magnitude of a regenerative **braking** force in accordance with the **charging** status. Then a chopper circuit 22 is controlled by the controller 20 in accordance with a force value obtained by reducing the regenerative **braking** force and the hydraulic **braking** force of a hydraulic **braking** apparatus from the necessary **braking** force. Therefore, an **electromagnetic brake** 24 generates a **braking** force which is determined by the controller 20 and the chopper circuit 22 in accordance with the necessary **braking** force and the regenerative force and **brakes** wheels through a decelerating mechanism 12 and a wheel shaft 10.

16/5/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

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00827805 **Image available**
BRAKING "DEVICE FOR ROLLING STOCK CAR

PUB. NO.: 56-148105 [JP 56148105 A]
PUBLISHED: November 17, 1981 (19811117)
INVENTOR(s): NAGASE MINORU
 .IMANAKA SENJI
APPLICANT(s): NIPPON AIR BRAKE CO LTD [000401] (A Japanese Company or
 Corporation), JP (Japan)
APPL. NO.: 55-051283 [JP 8051283]
FILED: April 17, 1980 (19800417)
INTL CLASS: [3] **B60L-007/24** ; B60T-013/74
JAPIO CLASS: 43.4 (ELECTRIC POWER -- Applications); 26.2 (TRANSPORTATION
 -- Motor Vehicles)
JOURNAL: Section: M, Section No. 114, Vol. 06, No. 33, Pg. 17,
 February 27, 1982 (19820227)

ABSTRACT

PURPOSE: To complete accurately insufficiency of electric **braking** force with **braking** force of a liquid **brake** in the **braking** device of the rolling stock car by a method wherein when an electric **brake** becomes to invalid, output liquid pressure of an electropneumatic converter is made to zero.

CONSTITUTION: **Braking** commands applied to command lines 2, 3, 4 are transmitted to an electric **brake** equipment 13 through a D-A converter 12. The electropneumatic converter sends out a liquid having pressure corresponding to a detected value of electric **brake** torque to a calculating relay valve 9. While **electromagnetic** valves 6, 7, 8 send out liquids having pressure corresponding to the **brake** commands applied to the command lines 2, 3, 4 to the calculating relay valve 9. The calculating relay valve 9 sends out a liquid having pressure corresponding to insufficiency of **braking** force to a **brake** cylinder 10. When output of the electric **brake** becomes to zero, an electric **brake** invalid detector 15 makes the output of the electropneumatic converter 17 to zero to eliminate **hysteresis**.

16/5/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
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00644730 **Image available**
LOAD REGULATION RESPONSE DEVICE FOR ELECTRIC RAILWAY

PUB. NO.: 55-132330 [JP 55132330 A]
PUBLISHED: October 15, 1980 (19801015)
INVENTOR(s): KAWARABAYASHI TSUNEO
APPLICANT(s): JAPAN STORAGE BATTERY CO LTD [000428] (A Japanese Company or
 Corporation), JP (Japan)
APPL. NO.: 54-036391 [JP 7936391]
FILED: March 28, 1979 (19790328)
INTL CLASS: [3] B60M-003/00; **B60L-007/12**
JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 43.4 (ELECTRIC POWER --
 Applications)
JOURNAL: Section: M, Section No. 48, Vol. 04, No. 187, Pg. 35,
 December 23, 1980 (19801223)

ABSTRACT

PURPOSE: To enable a trolley voltage of the electric railway to be

prevented from abnormally rising, by effectively absorbing regenerative powers of the electric car.

CONSTITUTION: In a thyristor switch device 7, a main thyristor 71 is controlled so as to be made in conduction when a voltage of the trolley wire rises due to the regenerative **braking** operation of an electric car. In this way, a **charging** current flows from the trolley wire to a storage battery 5. A rectifier device 6 can be operated by closing an **electromagnetic** switch 66 when the electric car is in operation of the power running. The device, feeding the power to the electric car cooperatively with railway rectifier devices 2, 2', causes the reception of AC power to moderate its peak.

16/5/8 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014220394 **Image available**

WPI Acc No: 2002-041092/200205

XRPX Acc No: N02-030551

Spring-set, electromagnetically released brake e.g. for servomotor or stepper motor, has coil bobbin that is secured against movement within electromagnetic assembly without bonding

Patent Assignee: WARNER ELECTRIC TECHNOLOGY INC (WARN-N)

Inventor: GUSTIN D C; LEONE M F; NELSON D J; PINK T C

Number of Countries: 021 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200114164	A1	20010301	WO 2000US23179	A	20000823	200205 B
US 6315088	B1	20011113	US 99379686	A	19990824	200205
EP 1210245	A1	20020605	EP 2000957732	A	20000823	200238
			WO 2000US23179	A	20000823	
JP 2003528260	W	20030924	WO 2000US23179	A	20000823	200365
			JP 2001518279	A	20000823	

Priority Applications (No Type Date): US 99379686 A 19990824

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200114164 A1 E 27 B60L-007/00

Designated States (National): JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

US 6315088 B1 B60L-007/00

EP 1210245 A1 E B60L-007/00 Based on patent WO 200114164

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

JP 2003528260 W 30 F16D-051/20 Based on patent WO 200114164

Abstract (Basic): WO 200114164 A1

NOVELTY - The **electromagnetically** released **brake** (20) includes a magnet shell (26) disposed about a first axis with a radially extending pole (80,82) around which an armature (38,30) is disposed, and biased radially outwardly by a spring (36,38). The **brake** also includes a bobbin (44,46) having a flange (122) extending radially inwardly relative to a second axis and a projection (120) extending axially relative to the second axis, the flange and projection being configured to engage the magnet shell and prevent radial and axial movement of the bobbin and coil.

DETAILED DESCRIPTION - The **brake** includes the magnet shell disposed about a first axis, the armature disposed radially outwardly

of the radially extending pole and pivoting at a first axial end and a first engagement element, such as a **brake** shoe, coupled to the armature proximate a second axial end of the armature. The spring disposed about the pole biases the armature radially outwardly to urge the first engagement element towards a second engagement element such as a friction surface in a **brake** drum. A coil (40,42) is disposed about the pole and selectively **energized** to urge the armature radially inwardly and the first engagement element away from the second engagement element. The **brake** also includes the bobbin having a cylindrical body portion (112) disposed about a second axis and first and second discs (118) extending radially outwardly from first and second ends, respectively, of the body portion. The bobbin further includes the flange extending radially inwardly relative to the second axis and the projection extending axially relative to the second axis, the flange and projection are configured to engage the magnet shell and prevent radial and axial movement of the bobbin and coil.

An INDEPENDENT CLAIM is included for an **electromagnetic** assembly incorporating the coil bobbin.

USE - **Brake** can be used in connection with a servomotor or stepper motor, but also in a variety of motors in a wide variety of applications (not detailed).

ADVANTAGE - **Brake** requires a relatively small amount of current to release and the amount of backlash when the **brake** is set is reduced. Coil bobbin used in **brake** or other **electromagnetic** assembly restricts movement of bobbin and coil retained by bobbin without requiring bonding to a magnet pole or other structure within the assembly.

DESCRIPTION OF DRAWING(S) - The drawing shows a cross-sectional view of the **brake**.

brake (20)
housing (22)
end bell (24)
magnet shell (26)
armatures (28,30)
springs (36,38)
coils (40,42)
bobbins (44,46)
poles (80,82)
projection (120)
flange (122)
pp; 27 DwgNo 2/13

Title Terms: SPRING; SET; **ELECTROMAGNET** ; RELEASE; **BRAKE** ; SERVOMOTOR;
STEP; MOTOR; COIL; BOBBIN; SECURE; MOVEMENT; **ELECTROMAGNET** ; ASSEMBLE;
BOND

Derwent Class: Q14; Q18; Q63; V06; X25

International Patent Class (Main): **B60L-007/00** ; F16D-051/20

International Patent Class (Additional): B60T-013/04; F16D-065/27

File Segment: EPI; EngPI

16/5/9 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013383164 **Image available**

WPI Acc No: 2000-555102/200051

XRFX Acc No: N00-411484

Damping board for electromagnetic clutch, is slidably mounted axially in revolving shaft, so that gap between armature and damping board lining is made small

Patent Assignee: TSUBAKIMOTO CHAIN CO (TSUC)
Inventor: HIRAI T; SONODA M; SUZUKI K; TSUDA T
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000220674	A	20000808	JP 9924438	A	19990201	200051 B
US 6155386	A	20001205	US 99474156	A	19991229	200066

Priority Applications (No Type Date): JP 9924438 A 19990201

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000220674	A	7	F16D-065/21	
US 6155386	A		B60L-007/00	

Abstract (Basic): JP 2000220674 A

NOVELTY - A damping board (4) is slidably mounted axially on a revolving shaft. The gap between armature and damping board lining is made small. Opposing the end face of boss element (4b) of damping board, an annular groove (8b) is provided. During **brake** release, the baffle plate is arranged opposing the annular groove such that an elastic element in annular groove contacts the end face of the baffle plate.

DETAILED DESCRIPTION - A damping spring (5) energizes the damping board in the opposite direction. A cylindrical element adjusts the stroke length of the damping board.

USE - For **electromagnetic brake** .

ADVANTAGE - Provision of elastic element in annular groove reduces noise without increasing the forming accuracy. The impact noise during armature colliding with the lining can be reduced, thereby sound-proof is reliably carried out.

DESCRIPTION OF DRAWING(S) - The figure shows the functional sectional view of the **electromagnetic brake** .

Damping board (4)
Boss element (4b)
Spring (5)
Annular groove (8b)
pp; 7 DwgNo 7/7

Title Terms: DAMP; BOARD; **ELECTROMAGNET** ; CLUTCH; SLIDE; MOUNT; AXIS;
REVOLVING; SHAFT; SO; GAP; ARMATURE; DAMP; BOARD; LINING; MADE
Derwent Class: Q14; Q18; Q63; X25
International Patent Class (Main): **B60L-007/00** ; F16D-065/21
International Patent Class (Additional): B60T-013/04; F16D-019/00;
F16D-055/06
File Segment: EPI; EngPI

16/5/10 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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012820332 **Image available**
WPI Acc No: 1999-626563/199954
XRPX Acc No: N99-463300

Damping control apparatus of drive motor for electric wheel chair - includes control unit which energizes electromagnetic brake intermittently during emergency shut down and outputs damping command

Patent Assignee: SHIKOKU SEISAKUSHO KK (SHIK-N)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
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Set	Items	Description
\$1	19	AU=(NYGREN L? OR NYGREN, L?)
S2	494720	ELECTROMAGNET? OR ELECTRO()MAGNET?
S3	52514	BRKING OR BRAKE OR BRAKES
S4	1873374	POWER OR DC OR AC OR (DIRECT OR ALTERNATING)()CURRENT
S5	1136309	CAPACITOR OR RESISTANCE OR CAPACITANCE OR RESISTOR OR RC
S6	1062363	ENERGI? OR DEENERGI? OR HYSTERESIS OR CHARG?
S7	1024	S2(5N)S3
S8	0	S1 AND S2
S9	19	S7 AND S4 AND S5
S10	42	S2 AND S3 AND S4 AND S5
? show file		
File	6:NTIS 1964-2004/Mar W1	
File	(c) 2004 NTIS, Intl Cpyrght All Rights Res	
File	8:EI Compendex(R) 1970-2004/Feb W5	
File	(c) 2004 Elsevier Eng. Info. Inc.	
File	25:Weldasearch 1966-2002/Sep	
File	34:SciSearch(R) Cited Ref Sci 1990-2004/Feb W5	
File	(c) 2004 TWI Ltd	
File	63:Transport Res(TRIS) 1970-2004/Feb	
File	(c) 2004 Inst for Sci Info	
File	65:Inside Conferences 1993-2004/Mar W1	
File	(c) fnt only 2004 Dialog Corp.	
File	81:MIRA - Motor Industry Research 2001-2004/Feb	
File	(c) 2004 BLDSC all rts. reserv.	
File	92:IHS Intl.Stds.& Specs. 1999/Nov	
File	(c) 2004 MIRA Ltd.	
File	94:JICST-EPlus 1985-2004/Feb W5	
File	(c) 1999 Information Handling Services	
File	95:TEME-Technology & Management 1989-2004/Feb W4	
File	(c) 2004 Japan Science and Tech Corp(JST)	
File	96:FLUIDEX 1972-2004/Feb	
File	(c) 2004 FIZ TECHNIK	
File	99:Wilson Appl. Sci & Tech Abs 1983-2004/Feb	
File	(c) 2004 Elsevier Science Ltd.	
File	434:SciSearch(R) Cited Ref Sci 1974-1989/Dec	
File	(c) 2004 The HW Wilson Co.	
File	(c) 1998 Inst for Sci Info	

10/3,K/1 (Item 1 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

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06699155 E.I. No: EIP04057997117

Title: Optimizing electromechanical brakes

Author: Bochkarev, I.V.

Corporate Source: Kyrgyz Technical University, Kyrgyz, Russian Federation

Source: Russian Electrical Engineering v 73 n 9 2002. p 55-62

Publication Year: 2002

CODEN: RELEEG ISSN: 1068-3712

Language: English

Title: Optimizing electromechanical brakes

Abstract: The influence of various parameters of electromechanical **brakes** on their dynamic characteristics in various operating conditions is investigated. Recommendations are made to permit minimization of the dimensions, **power** consumption, and copper consumption, with the specified initial data. The results may be used in the design of various mechanisms based on an **electromagnetic** system with a mobile armature. 6 Refs.

Descriptors: Electric **brakes** ; Electromechanical devices; Electric **power** supplies to apparatus; Copper; **Electromagnets** ; Torque; Magnetic circuits; Electric **resistance** ; Magnetic permeability; Numerical methods.

Identifiers: Electromechanical **brakes** ; **Electromagnetic** circuit; Magnetic induction; Air gap

10/3,K/2 (Item 2 from file: 8)

DIALOG(R)File 8:Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

06022609 E.I. No: EIP02126891646

Title: Two quadrants control of the switched reluctance motor drive for application in electric drive bicycle

Author: Chen, Hao; Meng, Xianjun; Jiang, Jianguo

Corporate Source: Dept. of Automation China Univ. of Mining and Technology, Xuzhou 221008, China

Conference Title: 2001 IEEE International Conference on Systems, Man and Cybernetics

Conference Location: Tucson, AZ, United States Conference Date: 20011007-20011010

E.I. Conference No.: 59059

Source: Proceedings of the IEEE International Conference on Systems, Man and Cybernetics v 5 2001. p 3163-3168 (IEEE cat n 01CH37236)

Publication Year: 2001

CODEN: PICYE3 ISSN: 0884-3627

Language: English

...Abstract: paper presents the principle of two quadrants control, such as the traction control and regenerative **braking** control. The configuration of the Switched Reluctance motor drive for application in electric drive bicycle...

...the 12/8 structure motor and the 6/8 structure motor, at the same average **electromagnetic** torque in the turn numbers of per stator pole coil, in the **resistance** of the stator phase windings, and in the basic output frequency of the **power** converter, are made. Tested results of the developed prototype with the three-phase 12/8...

...travel course with once charging, in the velocity, in the output

torque, in the output **power** , in the systematic efficiency and in the peak value of phase current, are presented. 10...

Descriptors: Reluctance motors; Electric drives; Bicycles; Control systems; Magnetolectric effects; Electric **resistance** ; Stators; Torque

10/3,K/3 (Item 3 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

05890840 E.I. No: EIP01386654926

Title: Applying a low thermo-rating braking resistor bank to alleviate the blade vibrations in turbine-generators

Author: Tsai, W.-C.

Corporate Source: Department of Electrical Engineering Far East Institute of Technology, Hsinshih 74404, Tainan, Taiwan

Source: Journal of the Chinese Institute of Electrical Engineering, Transactions of the Chinese Institute of Engineers, Series E/Chung KuoTien Chi Kung Chieng Hsueh K'an v 8 n 3 August 2001. p 257-266

Publication Year: 2001

ISSN: 1023-4462

Language: English

Title: Applying a low thermo-rating braking resistor bank to alleviate the blade vibrations in turbine-generators

...Abstract: bank with low thermo-rating to suppress the blade vibrations in turbine-generators arising from **power** system faults. Unlike previous approaches did, the new approach restricts the initial amplitude of fault...

...vibrations of turbine-generators. By inserting a BR bank with low thermo-rating into the **power** system at the beginning of **power** system disturbance, the induced system-frequency component of **Electromagnetic** (E/M) disturbing torque can be effectively reduced, thus alleviating impacts on the steam turbine...

...vibrations in the turbine-generators. Because the BR bank is activated at the instant of **power** system disturbances, it will dissipate only a small amount of energy. 10 Refs.

Descriptors: Turbogenerators; Turbomachine blades; Vibrations (mechanical); Resistors; Thermal effects; Electric fault currents; Electric **power** systems; **Electromagnetic** fields; Torque; Computer simulation; Damping

Identifiers: **Braking resistor** bank; Low thermo-rating; **Electromagnetic** disturbing torque; Steam turbine blades

10/3,K/4 (Item 4 from file: 8)

DIALOG(R)File 8:EI Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04692842 E.I. No: EIP97053645465

Title: Analysis of generator-driven linear induction launchers

Author: Liao, M.; Zabar, Z.; Levi, E.; Birenbaum, L.

Corporate Source: Polytechnic Univ, Brooklyn, NY, USA

Conference Title: Proceedings of the 1996 8th Symposium on Electromagnetic Launch Technology, EML

Conference Location: Baltimore, MD, USA Conference Date: 19960421-19960424

E.I. Conference No.: 46360

Source: IEEE Transactions on Magnetics v 33 n 1 pt 1 Jan 1997. p 184-189
Publication Year: 1997
CODEN: IEMGAQ ISSN: 0018-9464
Language: English

...Abstract: the analysis and design of high-speed, multi-section, generator-driven, polyphase, linear-induction-type **electromagnetic** launchers. During a launch, steady state is never reached. Hence, a transient simulation model, based on lumped-circuit parameters, was developed, for purposes of analysis, in earlier work with **capacitor**-driven launchers. This model, as well as its related computer code, is also applicable to...

...found that simultaneous energizing of the three phases of generator-driven launchers gives rise to **dc** current components in the barrel-coils that can cause strong **braking** forces, especially at the transitions between sections. In this paper, an alternate energizing mode, in...

...phase angle, significantly influence the performance. With some poorly-chosen initial positions or phase angles, **dc** components of the currents in the armature can produce very large retarding forces, thus resulting...

Descriptors: **Electromagnetic** launchers; Computer simulation; Electric generators; Electric network analysis; Electric currents; Projectiles; Transients

10/3,K/5 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

04382242 E.I. No: EIP96043146387

Title: Trends in developing an electric drive of block brakes and electric devices of lifting equipment

Author: Yungerov, V.S.; Ivashkov, N.I.; Iverskij, V.R.; Kostromin, A.D.

Corporate Source: Firma 'Pod''emtransservis'

Source: Tyazheloe Mashinostroenie n 12 Dec 1995. p 9-11

Publication Year: 1995

CODEN: TYMAAV

Language: Russian

Title: Trends in developing an electric drive of block brakes and electric devices of lifting equipment

Abstract: Five groups of devices are discussed: electrohydraulic pushers, long stroke **DC** magnets, a combined electric drive, **resistor** blocks and **electromagnetic** contactors. Each group is briefly described and illustrated. Also, parameters for each group of these...

...an electric drive for lifting equipment, in particular, electric drive and control circuits for block **brakes** . 9 Refs.

Descriptors: Electric drives; Hydraulic **brakes** ; Electric **brakes** ; Transportation; Design; Subways; Patents and inventions

Identifiers: Block **brakes** ; Lifting equipment

10/3,K/6 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

02332558 E.I. Monthly No: EI8711110639

Title: Analytic Model of a Drive With an Induction Motor, Current Inverter, and Chopper.

Title: ANALYTICKY MODEL POHONU S ASYNCHRONNIM MOTOREM, PROUDOVYM STRIDACEM A PULSNIM MENICEM.

Author: Lettl, Jiri

Source: Elektrotechnicky Obzor v 76 n 5-6 May-Jun 1987 p 273-282

Publication Year: 1987

CODEN: EKOBAJ ISSN: 0013-5798

Language: CZECH

...Abstract: of a system consisting of a three phase squirrel cage induction motor, current inverter, intermediate **dc** current circuit and synchronous pulsing chopper is deduced. The controlled and controlling systems are simulated...

...of the periodical states in the motor regime, in the regimes of generator recuperation and **resistance braking** and of the transient solution of the **electromagnetic** phenomena in the system illustrate effectively the static and dynamic properties of the analysed drive...

10/3,K/7 (Item 7 from file: 8)

DIALOG(R)File 8: Ei Compendex(R)

(c) 2004 Elsevier Eng. Info. Inc. All rts. reserv.

00317918 E.I. Monthly No: EI7308038568 E.I. Yearly No: EI73007082

Title: Constructional Problems of Modern Induction Motors Driving Sugar Centrifuges.

Title: PROBLEMY KONSTRUKCYJNE NOWOCZESNYCH SILNIKOW INDUKCYJNYCH DO NAPIEDU WIROWEK CUKROWNICZYCH.

Author: Glowacki, Andrzej

Source: Przegląd Elektrotechniczny v 49 n 1 Jan 1973 p 12-16

Publication Year: 1973

CODEN: PZELAL ISSN: 0033-2097

Language: POLISH

...Abstract: load at very high losses of heat which is generated in windings during starting and **braking**. Their design differs substantially from that of standard induction motors. The motors consist of two **electromagnetically** independent parts. The high speed part has a cage with separated **resistance** portion; the low speed part is a small **power** motor with many poles. The entire system must meet heavy requirements resulting from operating conditions...

10/3,K/8 (Item 1 from file: 34)

DIALOG(R)File 34: SciSearch(R) Cited Ref Sci

(c) 2004 Inst for Sci Info. All rts. reserv.

09867088 Genuine Article#: 459GT No. References: 10

Title: Suppressing the blade vibrations of a turbine-generator due to power disturbances by optimally operating a BR bank

Author(s): Tsai WC (REPRINT)

Corporate Source: Far E Inst Technol, Dept Elect Engn, Hsinchu 74404//Taiwan/ (REPRINT); Far E Inst Technol, Dept Elect Engn, Hsinchu 74404//Taiwan/

Journal: JSME INTERNATIONAL JOURNAL SERIES C-MECHANICAL SYSTEMS MACHINE ELEMENTS AND MANUFACTURING, 2001, V44, N2 (JUN), P327-333

ISSN: 1340-8062 Publication date: 20010600

Publisher: JAPAN SOC MECHANICAL ENGINEERS, SHINANOMACHI-RENGAKAN BLDG, SHINANOMACHI 35, SHINJUKU-KU, TOKYO, 160-0016, JAPAN

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Title: Suppressing the blade vibrations of a turbine-generator due to power disturbances by optimally operating a BR bank

...Abstract: stability as well as improve the transient response, to suppress turbine blade vibrations arising from **power** system faults. Because most of cumulative blade damages are produced in the beginning cycles((1...

...the system-frequency responses always play an essential role on blade vibration behaviors arising from **power** system disturbances, vibrations can be significantly suppressed accordingly. The BR bank is activated at the instant of **power** system disturbances, it will dissipate only small amount of energy.

10/3,K/9 (Item 2 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(c) 2004 Inst for Sci Info. All rts. reserv.

09750131 Genuine Article#: 443PJ No. References: 21

Title: Tests of cycling performance

Author(s): Paton CD; Hopkins WG (REPRINT)

Corporate Source: Univ Otago,Sch Med Sci, Dept Physiol,Box 913/Dunedin//New Zealand/ (REPRINT); Univ Otago,Sch Med Sci, Dept Physiol,Dunedin//New Zealand//; Waikato Polytech,Ctr Sport & Exercise Sci,Hamilton//New Zealand/

Journal: SPORTS MEDICINE, 2001, V31, N7, P489-496

ISSN: 0112-1642 Publication date: 20010000

Publisher: ADIS INTERNATIONAL LTD, 41 CENTORIAN DR, PRIVATE BAG 65901, MAIRANGI BAY, AUCKLAND 10, NEW ZEALAND

Language: English Document Type: REVIEW (ABSTRACT AVAILABLE)

...Abstract: the basis of most of these tests. Most cycle ergometers are stationary devices that measure **power** while a cyclist pedals against sliding friction (e.g. Monark), **electromagnetic braking** (e.g. Lode), or air **resistance** (e.g. Kingcycle). Mobile ergometers (e.g. SRM cranks) allow measurement of **power** through the drive train of the cyclist's own bike in real or simulated competitions...

...usually produce random error of at least similar to 2 to 3% in the measure of **power** output. Random error as low as similar to 1% is possible for measures of **power** in 'all-out' sprints, incremental tests, constant-**power** tests to exhaustion and probably also time trials in an indoor velodrome. Measures with such...

...Identifiers--ENDURANCE PERFORMANCE; DYNAMIC CALIBRATION; ERGOMETERS; **POWER**; AIR; TIME

10/3,K/10 (Item 3 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

(c) 2004 Inst for Sci Info. All rts. reserv.

05540427 Genuine Article#: WF012 No. References: 8

Title: Analysis of generator-driven linear induction launchers

Author(s): Liao M (REPRINT) ; Zabar Z; Levi E; Birenbaum L

Corporate Source: POLYTECH INST NEW YORK,333 JAY ST/BROOKLYN//NY/11201 (REPRINT)

Journal: IEEE TRANSACTIONS ON MAGNETICS, 1997, V33, N1,1 (JAN), P184-189

ISSN: 0018-9464 Publication date: 19970100

Publisher: IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC, 345 E 47TH ST,
NEW YORK, NY 10017-2394

Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

...Abstract: analysis and design of high-speed, multi-section,
generator-driven, poly-phase, linear-induction-type **electromagnetic**
launchers.

During a launch, steady state is never reached. Hence, a transient
simulation model, based on lumped-circuit parameters, was developed,
for purposes of analysis, in earlier work with **capacitor**-driven
launchers. This model, as well as its related computer code, is also
applicable to...

...driven launchers gives rise to de current components in the barrel-coils
that can cause strong **braking** forces, especially at the transitions
between sections. In this paper, an alternate energizing mode, in...

...phase angle, significantly influence the performance. With some
poorly-chosen initial positions or phase angles, **dc** components of the
currents in the armature can produce very large retarding forces, thus
resulting...

10/3,K/11 (Item 4 from file: 34)

DIALOG(R) File 34:SciSearch(R) Cited Ref Sci

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03709429 Genuine Article#: P2773 No. References: 22

Title: DESIGN OF AN ELECTROMAGNETIC ACCELERATOR FOR TURBULENT
HYDRODYNAMIC MIX STUDIES

Author(s): SUSOEFF AR; HAWKE RS; MORRISON JJ; DIMONTE G; REMINGTON BA

Corporate Source: LAWRENCE LIVERMORE NATL LAB/LIVERMORE//CA/00000

Journal: IEEE TRANSACTIONS ON MAGNETICS, 1995, V31, N1 (JAN), P354-359

ISSN: 0018-9464

Language: ENGLISH Document Type: ARTICLE (Abstract Available)

Title: DESIGN OF AN ELECTROMAGNETIC ACCELERATOR FOR TURBULENT
HYDRODYNAMIC MIX STUDIES

Abstract: An **electromagnetic** accelerator in the form of a linear electric
motor (LEM) has been designed to achieve...

...with the intended study and 3) a compliant, nonarcing solid armature
allowing optimum electrical contact. **Electromagnetic** modeling codes
were used to optimize the rail and augmentation coil positions within
the support structure framework. Design of the driving armature and the
dynamic **electromagnetic** braking system is based on results of
contemporary studies for non-arcing sliding contact of solid armatures.
A 0.6MJ electrolytic **capacitor** bank is used for energy storage to
drive the LEM. This report will discuss a...

...Research Fronts: IMAGE VELOCIMETRY; PHASE-SHIFTING HOLOGRAPHIC MOIRE;
QUANTITATIVE FLOW VISUALIZATION; FRINGE PATTERNS)

93-0826 001 (HIGH- **POWER** ND-GLASS LASER SYSTEM; THERMAL FILAMENTATION
IN PLASMAS; RAYLEIGH-TAYLOR INSTABILITY; LANGMUIR TURBULENCE EQUATIONS;
RANDOM...

10/3,K/12 (Item 1 from file: 63)

DIALOG(R) File 63:Transport Res(TRIS)

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00822170 DA

**TITLE: ENERGY CONSUMPTION OF PASSENGER TRAIN X2 WITH REGENERATIVE BRAKING
AND INDUCTION MOTORS: FEASIBILITY STUDY AND DEVELOPMENT OF A SIMULATION
MODEL**

AUTHOR(S): FORS, J

CORPORATE SOURCE: KUNGL. TEKNISKA HOEGSKOLAN INSTITUTIONEN FOER
FARKOSTTEKNIK, STOCKHOLM, SE-100 44, SWEDEN

JOURNAL: TRITA-FKT Issue Number: 2001:17 Pag: 58p + app

PUBLICATION DATE: 20010000 PUBLICATION YEAR: 2001

LANGUAGE: ENGLISH SUBFILE: IRRD (I)

IRRD DOCUMENT NUMBER: E206860

ISSN: 1103-470X

REFERENCES: 12

DATA SOURCE: Transport Research Laboratory (TRL)

**TITLE: ENERGY CONSUMPTION OF PASSENGER TRAIN X2 WITH REGENERATIVE BRAKING
AND INDUCTION MOTORS: FEASIBILITY STUDY AND DEVELOPMENT OF A SIMULATION
MODEL**

...ABSTRACT: study is a start for development of a simulation program for
passenger trains with regenerative **braking** . Further work is necessar
y to achieve a complete program for simulation of energy consumption...

...developed are concerning the Swedish high-speed passenger train X2,
which is equipped with regenerative **braking** . However, it is believed
that a lot of functions can be used also for other trains with
regenerative **braking** . Chapters 2 and 3 deals with the function of the
train X2; driving controls, traction and **brake** forces, **power** and
energy use of the traction system, auxiliary and train heat **power**
system, calculation of running **resistance** and other formulas. In
chapter 4 the functions of X2 are translated into Matla b...

DESCRIPTORS: Railroad trains; Energy consumption; High speed vehicles;
Speed; **Braking** ; **Electromagnetic induction** ; Motors; Simulation;
Computer programs; Traction; Adhesion; Driving; Interviewing; Drivers;
Train; High speed; Induction; Program...

10/3,K/13 (Item 2 from file: 63)

DIALOG(R)File 63:Transport Res(TRIS)

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00638157 DA

TITLE: RECENT RESEARCH AND DEVELOPMENT OF ROLLING STOCK RESEARCH DIVISION

AUTHOR(S): Miyamoto, M

CORPORATE SOURCE: Railway Technical Research Institute, 2-8-38, Hikari-cho,
Kokubunji-shi, Tokyo 185, Japan

JOURNAL: Railway Technical Research Inst, Quarterly Reports Vol: 34

Issue Number: 2 Pag: pp 85-89

PUBLICATION DATE: 19930500 PUBLICATION YEAR: 1993

LANGUAGE: English SUBFILE: RRIS (R)

ISSN: 0339008

AVAILABILITY: Ken-yusha, Incorporated; 1-45-6 Hikari-cho, Kokubunji-shi
; Tokyo ; Japan

ORDER NUMBER: N/A

FIGURES: 8 Fig.

...ABSTRACT: research and requested R&D from Japan Railways Group companies
regarding rolling stock and electric **power** supply system. These
results obtained by basic researchers are reflected in the projects:
high speed...

...control; adhesion force in wheel slipping; railway vehicle dynamics

simulation; active control of wheelsets; new **electro - magnetic** air **brake** system; and, development of device for detecting deterioration of feeder cables by eddy current.
DESCRIPTORS: ROLLING STOCK; WHEEL LOAD DISTRIBUTION; SLIP **RESISTANCE** ;
TORQUE; ADHESION; VEHICLE DYNAMICS; **ELECTROMAGNETIC** PROPERTIES;
BRAKE SYSTEMS

10/3,K/14 (Item 3 from file: 63)
DIALOG(R)File 63:Transport Res(TRIS)
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00130053 DA
**TITLE: TRACTION POWER SUPPLY EFFICIENCY INCREASE; POVYSHENIE
EFFEKTIVNOSTI TIAGOVOGO ELEKTROSNABZHENIIA**
CORPORATE SOURCE: All-Union Labor Red Banner Railway Research Inst, USSR:
Ministry of Railways, Moscow, USSR
REPORT NUMBER: No. 520 Proceeding
Pag: 144 pp
SUPPLEMENTAL NOTES: Abstract only is available in English; original
untranslated as of November 1976.
PUBLICATION DATE: 19740000 PUBLICATION YEAR: 1974
LANGUAGE: Russian SUBFILE: RRIS; RRIS (R 7701; R 77S1)
AVAILABILITY: Transport Publishing House; USSR Ministry of Transport ;
Moscow ; USSR
FIGURES: 60 Fig. TABLES: 14 Tab.
REFERENCES: 44 Ref.
DATA SOURCE: Federal Railroad Administration

TITLE: TRACTION POWER SUPPLY EFFICIENCY INCREASE
...ABSTRACT: chapters covered in this pamphlet covers the following: (1)
Increasing the effectiveness of 3 kV. **direct current** electrified
railroads; (2) Algorithm for calculating traction during a given travel
time along a **direct current** section, accounting for changing
tension on the electric locomotive current acceptors under tractive and
recuperative...
...New protection schemata for transformer overloading under rectifying
conditions. (10) Overloading arising during opening of **electromagnetic**
mechanisms with ferromagnetic cores; (11) Mathematical modeling of
processes during graduated regulation of tractive substation
alternating current tension; (12) Experimental research on tension
spectrum of transverse electrical supply lines; (13) Influence of
resistor -condenser contour parameters upon tension distortion of
tractive substations with semiconductor transformers; (14) Electrical
work safety in non-junction road laying on **alternating current**
sections.
DESCRIPTORS: HIGH VOLTAGE **DC** ELECTRIFICATION; TRACTIVE EFFORT; ELECTRIC
POWER SUPPLY; REGENERATIVE **BRAKING** ; TRANSFORMERS; RECTIFIERS;
THYRISTORS; PROTECTIVE DEVICES; SWITCHGEAR; CONTACTORS; SUBSTATIONS;
MATHEMATICAL MODELS; **AC** ELECTRIFICATION; SAFETY; ELECTRIFICATION

10/3,K/15 (Item 4 from file: 63)
DIALOG(R)File 63:Transport Res(TRIS)
(c) fmt only 2004 Dialog Corp. All rts. reserv.

00052809 DA
TITLE: SHUNTING SENSITIVITY OF TRACK CIRCUITS
CORPORATE SOURCE: International Union of Railways, Office for Research and

Experiments, Oudenoord 60, Utrecht, Netherlands
REPORT NUMBER: A4/RF/E Final Rpt.
Pag: 16 pp
SUPPLEMENTAL NOTES: Restrictions on the use of this document are contained
in the explanatory material.
PUBLICATION DATE: 19620300 PUBLICATION YEAR: 1962
LANGUAGE: English SUBFILE: RRIS (R 7602)
AVAILABILITY: International Union of Railways; Office for Research and
Experiments, Oudenoord 60 ; Utrecht; Netherlands
ORDER NUMBER: DOTL RP
DATA SOURCE: International Union of Railways

...ABSTRACT: that there are sound reasons for replacing the previously
customary concept of the "shunt limiting **resistance** " (that is that
greatest ohmic **resistance** which, when it becomes effective between
the rails of an insulated section, is still capable...

...this Administration uses on non-electrified lines just as much as on
line electrified at **direct current** or at single phase **alternating
current** . This solution, which has been described in Interim Report
No. 3 of March 1958, consists...

...during several milliseconds) for feeding the track circuit. It therefore
permits the employment of considerable **power** on the one hand and,
because the track is not constantly "live", avoids any danger...

...the question of the functioning of track circuits when passed by
vehicles equipped with disc **brakes** .

DESCRIPTORS: QUESTION A4; TRACK CIRCUITS; **ELECTROMAGNETIC** INTERFERENCE;
FRENCH NATIONAL RAILWAYS; ITALIAN STATE RAILWAYS; DISC **BRAKES**

10/3,K/16 (Item 1 from file: 81)
DIALOG(R) File 81:MIRA - Motor Industry Research
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187875

Delphi strengthens global battery portfolio, position release
Delphi - Press Release
April 11, 2002

Document Type: PRESS RELEASE Language: ENGLISH
Record Type: ABSTRACT
Supplier Record Type: Press Release

...of Delphi's battery portfolio includes the following:

FUTURE PRODUCTS * 14/42-Volt Systems - Increased **power** demands on vehicle
electrical systems, in addition to the industry's need to improve fuel...

...a vehicle. Higher voltages will enable the use of by-wire technologies,
ride control systems, **electromagnetic** valve trains, integrated
starter/generators, thinner and lighter wiring and cables and smaller
semiconductors. Already...

...Battery - Delphi has developed a new lithium polymer battery. This
battery offers outstanding performance for **power** and energy density. It
utilizes an environmentally friendly combination of polymer materials,
lithium alloys and...

...to produce a highly efficient battery system. Delphi's Lithium Battery System has achieved specific **power** greater than 1400 watts/kg and specific energy greater than 47 watt-hours/kg. This battery technology delivers high **power** over a wide range of battery states of charge and temperatures. Operating temperature is from...

...conventional vehicle layouts. The superior charge and discharge efficiency will enable high rates of regenerative **brake** energy recovery without large **power** conversion losses. "Eventually, we will be at a point in which the traditional lead-acid battery won't be enough to **power** the vehicles of the world," said David Kessler, chief engineer, batteries, Delphi Energy & Chassis Systems...

...and thermal runaway. With center cast-on plate straps and anchored plates they offer excellent **resistance** to vibration damage.

DURABILITY In a 2000-2001 longevity study conducted by an independent laboratory...

10/3,K/17 (Item 2 from file: 81)

DIALOG(R) File 81:MIRA - Motor Industry Research
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175252

Delphi energy storage technology leads company into decade of high voltage advancements

Delphi - Press Release
October 23, 2001

Document Type: PRESS RELEASE Language: ENGLISH
Record Type: ABSTRACT
Supplier Record Type: Press Release

With an eye on the future of vehicle **power** and new market opportunities, Delphi Automotive Systems continues to advance its battery technology and product...

...and thermal runaway. With centre cast-on plate straps and anchored plates they offer excellent **resistance** to vibration damage.

AGM Battery - The absorbent glass mat (AGM) battery is gas-recombinant, meaning...

...is currently in production for both OE and aftermarket applications. 14/42-Volt Systems - Increased **power** demands on vehicle electrical systems, in addition to the industry's need to improve fuel...

...a vehicle. Higher voltages will enable the use of by-wire technologies, ride control systems, **electromagnetic** valve trains, integrated starter/generators, thinner and lighter wiring and cables and smaller semiconductors. Already...

...Battery - Delphi has developed a new lithium polymer battery. This battery offers outstanding performance for **power** and energy density. It utilizes an environmentally friendly combination of polymer materials, lithium alloys and...

...to produce a highly efficient battery system. Delphi's Lithium Battery System has achieved specific **power** greater than 1400 watts/kg and

specific energy greater than 47 watt-hours/kg. This battery technology delivers high **power** over a wide range of battery states of charge and temperatures. Operating temperature is from...

...conventional vehicle layouts. The superior charge and discharge efficiency will enable high rates of regenerative **brake** energy recovery without large **power** conversion losses.

According to David Kessler, chief engineer, batteries, Delphi Energy & Chassis Systems, eventually, we...

...at a point in which the traditional lead-acid battery won't be enough to **power** the vehicles of the world. When that happens, Delphi will be ready with systems like...

10/3,K/18 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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05679881 JICST ACCESSION NUMBER: 04A0131417 FILE SEGMENT: PreJICST-E

A Fuzzy Logic Controlled Braking Resistor Scheme for Damping Shaft Torsional Oscillations

ALI M H (1); MIKAMI T (1); MURATA T (1); TAMURA J (1)

(1) Kitami Inst. Technol., Kitami

Denki Gakkai Ronbunshi. B(Transactions of the Institute of Electrical Engineers of Japan. B), 2004, VOL.124,NO.2, PAGE.207-214

JOURNAL NUMBER: S0809AAJ ISSN NO: 0385-4213

LANGUAGE: English

COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

MEDIA TYPE: Printed Publication

A Fuzzy Logic Controlled Braking Resistor Scheme for Damping Shaft Torsional Oscillations

ABSTRACT: This paper presents a fuzzy logic switching for the thyristor controlled **braking resistor** to damp turbine-generator shaft torsional oscillations. Following a major disturbance in electric **power** system, variable rotor speed of the generator is measured, and then the current through the **braking resistor** is controlled by the firing-angle of the thyristor switch which is controlled by the fuzzy logic. Thus the **braking resistor** controls the accelerating **power** in generators and damps the shaft torsional oscillations. The effects of the fault occurring time on turbine shaft torsional torques have also been investigated. Simulations are performed by using EMTP (**Electro - Magnetic** Transients Program). Through the simulation results of various multi-phase faults in a single machine connected to an infinite bus system, the effectiveness of the proposed fuzzy logic controlled **braking resistor** in damping shaft torsional oscillations is demonstrated. (author abst.)

10/3,K/19 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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05487030 JICST ACCESSION NUMBER: 03A0511888 FILE SEGMENT: JICST-E

Fundamental Performance on Disc Type Thermomagnetic Engine

TAKAHASHI YUTAKA (1); MATSUZAWA TOMOHIRO (1); NISHIKAWA MASAHIRO (1)

(1) Osaka Univ., Graduate School of Engineering, JPN

Denki Gakkai Ronbunshi. B(Transactions of the Institute of Electrical Engineers of Japan. B), 2003, VOL.123,NO.7, PAGE.883-889, FIG.15,

TBL.3, REF.3

JOURNAL NUMBER: S0809AAJ ISSN NO: 0385-4213
UNIVERSAL DECIMAL CLASSIFICATION: 669.017:537.03
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

...ABSTRACT: engine. The disc type engine has been designed in order to decrease the eddy current **braking** loss. The performance characteristics such as **power**, torque and loss has been measured, and compared with that of the cylindrical engine in the condition of the same volume of the temperature sensitive magnetic material. The eddy current **braking** loss is 0.04 W which corresponds to 1/30 the loss in the cylindrical engine at the rotation speed of 0.4 rps with the maximum **power** output. The total loss including partial losses due to the friction, the hydraulic effect and the eddy current **braking** is 0.9 W in the disc type engine and is 1.8 W in...

...total loss in the cylindrical engine at the same condition mentioned above. The maximum output **power** is 6.0 W at the rotation speed of 0.4 rps in the disc...

...is about 1.6 times larger than that of the cylindrical engine. The eddy current **braking** loss in the disc type engine is 0.7% of the value of the maximum output **power**, which is negligible effect in this engine. The **power** per unit volume of disc has the maximum value at the disc width of 40...

...at a constant. The rotor thickness includes with the clearance and the disc thickness. The **power** per unit rotor thickness also has the maximum value at the disc thickness of 0...

...When the permanent magnet fixes the size constant, the disc type engine generates high output **power** in comparison with the cylindrical engine at the point of effective use of magnetic field...

...DESCRIPTORS: **electromagnetic brake** ; ...

...electric **resistance** ;

...BROADER DESCRIPTORS: **electromagnetic equipment**...

... **brake** ; ...

... **resistance** ;

10/3,K/20 (Item 3 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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04161946 JICST ACCESSION NUMBER: 99A0233672 FILE SEGMENT: JICST-E
Recent rolling stock technology. Electric brake which can be used to the stop.

WATANABE TOMOKI (1); OGASA MASAMICHI (1)

(1) Railw. Tech. Res. Inst.

RRR, 1999, VOL.56,NO.2, PAGE.10-15, FIG.13

JOURNAL NUMBER: F0333BAB ISSN NO: 0913-7009

UNIVERSAL DECIMAL CLASSIFICATION: 629.4.02/.03

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication

Recent rolling stock technology. Electric brake which can be used to the stop.

ABSTRACT: Regarding mechanical **brakes**, friction coefficients are uneven, and there is a delay of 0.2s until a **brake** force works after it is ordered; therefore, impact may be generated, when manual shift is conducted from an electric **brake** to a mechanical **brake**. Since the rotational frequency of an electric motor is detected by pulses of 40-60...

...1.8km/h or less can not be detected. In order to use an electric **brake** to the stop, it is necessary to reverse a motor by switching phase sequence of an inverter at 2km/h, and to match with grade **resistance**. A system for generating torque according to an order by vector control in an electric motor by automatically calculating grade **resistance** and required **brake** force from a stopping place, a present position, and deceleration was developed. Stationary and running...

...Japan Railway Co. 223 series electric railcar motor; regarding practical application, an inverter-less electric **brake** using an eddy current **brake** and an exclusive generator is best for all M composition, and there is no flat, and **brake** block exchange is not also required.

...DESCRIPTORS: **electromagnetic brake**;

BROADER DESCRIPTORS: **electromagnetic** equipment...

... **brake** ; ...

...electric **power** application...

...electric **power** equipment operation

10/3,K/21 (Item 4 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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04148585 JICST ACCESSION NUMBER: 99A0562373 FILE SEGMENT: JICST-E
Permanent Magnets in Automotive Applications.

KATO YOSHIO (1)

(1) Toyota Cent. Res. & Dev. Lab., Inc.

Toyota Chuo Kenkyujo R & D Rebyu(R&D Review of Toyota CRDL), 1999,
VOL.34,NO.2, PAGE.3-10, FIG.11, TBL.3, REF.16

JOURNAL NUMBER: G0820BAT ISSN NO: 0385-1508

UNIVERSAL DECIMAL CLASSIFICATION: 629.33.04/.06

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

ABSTRACT: Modern automobiles use many permanent magnets in various **electromagnetic** components for comfort, safety and better fuel economy. In Japan, the annual use of permanent...

...fanmotors, window regulators, fuel-pump motors, etc. A fully-equipped car has more than 30 DC electric motors. Rare-earth sintered magnets are used in antilock **braking** system(ABS) sensors, cam-angle sensors, revolution speed sensors, ignition coils, etc. Recently, the use...

...DESCRIPTORS: heat **resistance**

...BROADER DESCRIPTORS: electric **power** equipment...

... **brake** control device...

... **resistance** (endure)

10/3,K/22 (Item 5 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03130421 JICST ACCESSION NUMBER: 97A0115924 FILE SEGMENT: JICST-E

Resistor **cooling controller**.

SHIRAHATA SHIGEKI (1)

(1) Toshiba Corp.

Toshiba Gijutsu Kokaishu, 1997, VOL.15,NO.1, PAGE.135-136, FIG.2

JOURNAL NUMBER: L0795AAY ISSN NO: 0288-2701

UNIVERSAL DECIMAL CLASSIFICATION: 621.87 621.314.5

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

Resistor **cooling controller**. ...

...ABSTRACT: the most lower position of the generative resisters, the following were presented such as the **electro - magnetic** contacts by detecting the generative electric currents and corresponding to the generative quantities the characteristics, to control the **electro - magnetic** contacts, and to change the operation number of the cooling fans. The quantities of the...

...DESCRIPTORS: **power** converter...

...regenerative **brake** ; ...

... **resistor** ;

...BROADER DESCRIPTORS: **brake** ;

10/3,K/23 (Item 6 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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03075004 JICST ACCESSION NUMBER: 97A0035586 FILE SEGMENT: JICST-E

Brake **technology of rolling stocks**. (4) Brake **performance and its theory**.

HASEGAWA IZUMI (1); KUMAGAI NORIMICHI (1)

(1) Railw. Tech. Res. Inst.

Kikai no Kenkyu(Science of Machine), 1996, VOL.48,NO.12, PAGE.1279-1285, FIG.8, TBL.1, REF.10

JOURNAL NUMBER: F0147AAX ISSN NO: 0368-5713

UNIVERSAL DECIMAL CLASSIFICATION: 629.4.02/.03

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

Brake **technology of rolling stocks**. (4) Brake **performance and its theory**. ...

...DESCRIPTORS: **braking** performance...

...running **resistance** ; ...

...mechanical brake ; ...
... electromagnetic brake ; ...
...holding power ;
...BROADER DESCRIPTORS: resistance ; ...
... brake ; ...
... electromagnetic equipment

10/3,K/24 (Item 7 from file: 94)
DIALOG(R)File 94:JICST-EPlus
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02997325 JICST ACCESSION NUMBER: 96A0695101 FILE SEGMENT: JICST-E
Effective use of power and motion control. (2) . Mechanism of solenoid clutch/ brake .

FUJIWARA TAKAHISA (1)
(1) Shinko Electr. Co., Ltd.
Jidoka Gijutsu(Mechanical Automation), 1996, VOL.28,NO.8, PAGE.65-70,
FIG.11, TBL.1

JOURNAL NUMBER: S0674AAD ISSN NO: 0287-8461
UNIVERSAL DECIMAL CLASSIFICATION: 621.81-59
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication

Effective use of power and motion control. (2) . Mechanism of solenoid clutch/ brake .

DESCRIPTORS: electromagnetic clutch...

... electromagnetic brake ; ...
...frictional resistance ;
...BROADER DESCRIPTORS: electromagnetic equipment...
... brake ; ...
... resistance ;

10/3,K/25 (Item 8 from file: 94)
DIALOG(R)File 94:JICST-EPlus
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.

02014345 JICST ACCESSION NUMBER: 94A0187721 FILE SEGMENT: JICST-E
A design application handbook for magnetic clutch and brake . Test method. Engineering data. Test method magnetic clutch and brake .

Nihonkosakukikikogyokai
Kikai Sekkei(Machine Design), 1994, VOL.38,NO.4, PAGE.178-190, FIG.17
JOURNAL NUMBER: G0863AAL ISSN NO: 0387-1045
UNIVERSAL DECIMAL CLASSIFICATION: 621.825+621.838.2/.5 621.81-59
621.318

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

A design application handbook for magnetic clutch and brake . Test method.

Engineering data. Test method magnetic clutch and brake .

...ABSTRACT: 3 kinds of tests.1) Static testing.2) Torque test.3)

Explanations are given for **power** source, assembling, temperature, moisture, and lubrication regarding particulars of actuation characteristics test, methods in the...

...conditions, etc. Note that the static test includes testing of temperature rise of coil, insulation **resistance** , and **resistance** proof ; and measuring of time constant of coil and inductance.

DESCRIPTORS: **electromagnetic** clutch...

... **electromagnetic** **brake** ;

...BROADER DESCRIPTORS: **electromagnetic** equipment...

... **brake** ; ...

... **resistance** (endure

10/3,K/26 (Item 9 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01417774 JICST ACCESSION NUMBER: 91A0915187 FILE SEGMENT: JICST-E
Analysis of Arc Phenomena in Boundary Layer Of MHD Generator Channel.

INOUE I (1); ISHIKAWA M (1); UMOTO J (1)

(1) Kyoto Univ.

Mem Fac Eng Kyoto Univ, 1991, VOL.53,NO.3, PAGE.93-108, FIG.9, REF.14

JOURNAL NUMBER: G0148AAH ISSN NO: 0023-6063 CODEN: MEKYA

UNIVERSAL DECIMAL CLASSIFICATION: 621.311.29:537.84 533.9.06

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...ABSTRACT: Element Method, we study arc phenomena analytically in the boundary layer of the Faraday MHD **power** generator using petroleum-fired gas plasma as the working fluid, and get the following several...

...arc depend on a balance among the effect of convection, the Hall effect and the **braking** force based on the Lorentz force. The positions of the generated arc and the behavior...

...the arc are closely connected with the temperature of the electrode wall and the load **resistance** . (author abst.)

DESCRIPTORS: MHD **power** generation...

... **electromagnetic** field analysis

BROADER DESCRIPTORS: direct **power** generation...

... **power** generation...

...electric **power** energy operation

10/3,K/27 (Item 10 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01398679 JICST ACCESSION NUMBER: 91A0487580 FILE SEGMENT: JICST-E
Experimental study of squirrel caged damper structure for superconducting generator.

MAEDA SUSUMU (1); IZUMI AKIFUMI (1); UEDA AKINORI (1); TANAKA MASAOKI (1);
SAKABE SHIGEKAZU (2); KOMETANI HARUYUKI (2); NOMURA TATSUEI (3)

(1) Mitsubishi Electric Corp., Kobe Machinery Works; (2) Mitsubishi
Electric Corp., Central Res. Lab.; (3) Osaka Electro-Communication
Univ.

Denki Gakkai Ronbunshi. B(Transactions of the Institute of Electrical
Engineers of Japan. B), 1991, VOL.111,NO.4, PAGE.381-388, FIG.14,
TBL.1, REF.7

JOURNAL NUMBER: S0809AAJ ISSN NO: 0385-4213

UNIVERSAL DECIMAL CLASSIFICATION: 621.313.12 537.312.62.06

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...ABSTRACT: now takes into account the effects of the rotor end region by
estimating the end **resistance** based on eddy current flow path.
(author abst.)

...DESCRIPTORS: **braking** ; ...

... **electromagnetic** field analysis

...BROADER DESCRIPTORS: electric **power** equipment...

...electric **power** equipment operation...

10/3,K/28 (Item 11 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01253518 JICST ACCESSION NUMBER: 91A0087960 FILE SEGMENT: JICST-E
**Recent new products of automobile with special body. Development of a
new-model "Ro Lift".**

SEKI MASAYUKI (1); TADA MICHIMIRO (1)

(1) Toyota Auto Body Co., Ltd.

Shatai Gijutsu, 1989, VOL.28,NO.44, PAGE.72-75, FIG.14, TBL.8

JOURNAL NUMBER: S0235AAQ ISSN NO: 0285-659X

UNIVERSAL DECIMAL CLASSIFICATION: 621.87

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Introduction article

MEDIA TYPE: Printed Publication

...ABSTRACT: The travel control system is transistor control in a case of
full-automatic series, and **resistance** type control in a case of
semi-automatic series. The reduction gear is a maintenance...

...series motor in 1.3-and 1.0- ton lifts. This paper also describes the
brake, the hydraulic equipment and the battery charger.

...DESCRIPTORS: **electromagnetic brake** ;

...BROADER DESCRIPTORS: electric **power** application...

... **electromagnetic** equipment...

... **brake** ; ...

...electric power source equipment

10/3,K/29 (Item 12 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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01076949 JICST ACCESSION NUMBER: 90A0554820 FILE SEGMENT: JICST-E
**Evaluation of elastic-plastic fracture resistance of structural materials
for superconducting generator.**

HIRANO K (1); SUZUKI T (1); NAKAZAWA H (2)

(1) Agency of Industrial Science and Technology, MITI; (2) Tokyo Inst.
Technology

Proc Jpn Congr Mater Res, 1990, VOL.33, PAGE.19-23, FIG.12, TBL.2, REF.7

JOURNAL NUMBER: F0186ABH ISSN NO: 0368-3141

UNIVERSAL DECIMAL CLASSIFICATION: 620.17:669 669-419 539.42:669

621.313.12 537.312.62.06

LANGUAGE: English COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

**Evaluation of elastic-plastic fracture resistance of structural materials
for superconducting generator.**

...DESCRIPTORS: **electromagnetism** ; ...

... **braking** ;

...BROADER DESCRIPTORS: **electromagnet** ; ...

...electric power equipment...

... **electromagnetic shielding**

10/3,K/30 (Item 13 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00955124 JICST ACCESSION NUMBER: 90A0137693 FILE SEGMENT: JICST-E

Power transmission experiment in vacuum. 2.

KOZEKI FUMIO (1); SATO TOMOYUKI (1); INOUE AKIRA (1); NISHIMURA MAKOTO (2);
SEKI KATSUMI (2); KITSUI AKIO (3); TAKEUCHI SADA0 (4)

(1) Hitachi, Ltd., Mechanical Engineering Res. Lab.; (2) National Aerospace
Lab.; (3) Hitachi, Ltd.; (4)YOBEO RURONKOGYO

Uchu Kagaku Gijutsu Rengo Koenkai Koenshu(Proceedings of the Space Sciences
and Technology Conference), 1989, VOL.33rd, PAGE.840-841, FIG.5, TBL.2,
REF.1

JOURNAL NUMBER: S0277ACS

UNIVERSAL DECIMAL CLASSIFICATION: 621.83

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Short Communication

MEDIA TYPE: Printed Publication

Power transmission experiment in vacuum. 2.

...DESCRIPTORS: **rolling resistance** ; ...

...**heat resistance** ; ...

... **electromagnetic brake** ;

...BROADER DESCRIPTORS: **running resistance** ; ...

... resistance ; ...

... resistance (endure...

... electromagnetic equipment...

... brake ;

10/3,K/31 (Item 14 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00806376 JICST ACCESSION NUMBER: 89A0016714 FILE SEGMENT: JICST-E

Brake **equipment for linear motorcars.**

NAGATA KAZUTAKA (1)

(1) Nippon Air Brake Co., Ltd.

Nabuko Giho(Nabco Engineering Reports), 1988, NO.66, PAGE.11-19, FIG.13,
TBL.2, REF.1

JOURNAL NUMBER: X0469AAK ISSN NO: 0917-2637

UNIVERSAL DECIMAL CLASSIFICATION: 629.42 621.81-59

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

Brake **equipment for linear motorcars.**

...DESCRIPTORS: regenerative **brake ; ...**

...air **brake ; ...**

... **electromagnetic brake ; ...**

...running **resistance ;**

...BROADER DESCRIPTORS: electric **power equipment...**

... **brake ; ...**

... **electromagnetic equipment...**

... **resistance ;**

10/3,K/32 (Item 15 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00693296 JICST ACCESSION NUMBER: 88A0544716 FILE SEGMENT: JICST-E

Sequence circuits of overhead cranes. 10. Hoisting circuit. 5. Dynamic

braking type control circuit.

KAJIYA KAZUO (1)

(1) Yasukawa Electric Mfg. Co., Ltd.

Kuren, 1988, VOL.26,NO.10, PAGE.9696-9703, FIG.6, TBL.2

JOURNAL NUMBER: S0985AAI ISSN NO: 0285-3892

UNIVERSAL DECIMAL CLASSIFICATION: 621.87

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

Sequence circuits of overhead cranes. 10. Hoisting circuit. 5. Dynamic
braking type control circuit.

...DESCRIPTORS: regenerative brake ; ...

... electromagnetic brake ; ...

... resistor ; ...

... electromagnetic contactor

...BROADER DESCRIPTORS: brake ; ...

... AC motor...

... AC machine...

...electric power equipment...

... electromagnetic equipment

10/3,K/33 (Item 16 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00615344 JICST ACCESSION NUMBER: 88A0306162 FILE SEGMENT: JICST-E

Sequence circuit of overhead cranes. 4. Transverse travel circuit. 2.

ASONUMA HIROSHI (1)

(1) Mitsubishi Heavy Industries, Ltd., Hiroshima Shipyard and Engine Works
Kuren, 1988, VOL.26,NO.4, PAGE.9273-9277, FIG.5, TBL.2

JOURNAL NUMBER: S0985AAI ISSN NO: 0285-3892

UNIVERSAL DECIMAL CLASSIFICATION: 621.87

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

...DESCRIPTORS: oil hydraulic brake ; ...

... resistor ; ...

... electromagnetic contactor

...BROADER DESCRIPTORS: AC motor...

... AC machine...

...electric power equipment...

... brake ; ...

... electromagnetic equipment

10/3,K/34 (Item 17 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00489630 JICST ACCESSION NUMBER: 87A0490066 FILE SEGMENT: JICST-E

A precise long displacement control in a teflon sealed linear actuator.

SHINTAKU KATSURO (1); SHIMIZU AKIRA (1)

(1) Ehimedai Ko

Nippon Kikai Gakkai Ronbunshu. C(Transactions of the Japan Society of
Mechanical Engineers. C), 1987, VOL.53,NO.492, PAGE.1773-1781, FIG.19,

REF.7

JOURNAL NUMBER: F0045BAL ISSN NO: 0387-5024
UNIVERSAL DECIMAL CLASSIFICATION: 681.584.3+681.587.3 621.226+621.51
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

...ABSTRACT: sequentially combined is studied experimentally. In the digital process, only a set of single pulse **brake** control and proportional control is needed to get a time optimal response, and in the...

...DESCRIPTORS: abrasion **resistance** ;
...BROADER DESCRIPTORS: **resistance** (endure...

...fluid **power** control...

... **electromagnetic** wave interference

10/3,K/35 (Item 18 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00466096 JICST ACCESSION NUMBER: 87A0416598 FILE SEGMENT: JICST-E
Stabilized control of electric power system using superconducting magnetic energy storage system (SMES) combined with braking resistor

TAGO HISASHI (1); MITANI YASUNORI (1); TSUJI KIICHIRO (1); MURAKAMI YOSHISHIGE (1)

(1) Osakadai Ko

Denki Gakkai Denryoku Gijutsu Kenkyukai Shiryo, 1987, VOL.PE-87,NO.117-137, PAGE.21-30, FIG.11, TBL.2, REF.6

JOURNAL NUMBER: F0788BAX

UNIVERSAL DECIMAL CLASSIFICATION: 621.311.1 537.312.62:621.318.3

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Conference Proceeding

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

Stabilized control of electric power system using superconducting magnetic energy storage system (SMES) combined with braking resistor

ABSTRACT: The authors proposed a new control system which enables effective stabilized control of electric **power** system through the combined use of an SMES and a **braking resistor**. This control system can provide a determination process of combination of individual capacities required for stabilizing a given electric **power** system. It was also confirmed from the simulation that the control system showed a constant

...
...DESCRIPTORS: electric **power** storage...

... **braking** ; ...

...fixed **resistor** ; ...

...transmission system(electric **power**);

BROADER DESCRIPTORS: **electromagnet** ; ...

... **resistor** ; ...

"...electric power system

10/3,K/36 (Item 19 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00397724 JICST ACCESSION NUMBER: 87A0189850 FILE SEGMENT: JICST-E

Development of automatic generating mechanism for quartz watches.

NAGAO SHOICHI (1); YASUKAWA NAOAKI (1); YOSHINO MASASHI (1)

(1) Seikoepuson

Nippon Tokei Gakkaishi(Journal of the Horological Institute of Japan), 1987
, NO.120, PAGE.40-48, FIG.9, TBL.1

JOURNAL NUMBER: G0166AAD ISSN NO: 0029-0416

UNIVERSAL DECIMAL CLASSIFICATION: 681.11

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

...DESCRIPTORS: AC generator...

... electromagnetic induction...

... power generation...

... electromagnetic brake ; ...

...condenser(capacitor); ...

...consumed electric power

...BROADER DESCRIPTORS: AC machine...

...electric power equipment...

...electric power energy operation...

... electromagnetic equipment...

... brake ; ...

...electric power

10/3,K/37 (Item 20 from file: 94)

DIALOG(R)File 94:JICST-EPlus

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00294530 JICST ACCESSION NUMBER: 86A0437195 FILE SEGMENT: JICST-E

Functions and construction of electric parts of crane. 11 Control panel and control appliances.

ARAKI MICHİYOSHI (1)

(1) Toshiba Corp.

Kuren, 1986, VOL.24,NO.8, PAGE.7862-7869, FIG.3, TBL.6

JOURNAL NUMBER: S0985AAI ISSN NO: 0285-3892

UNIVERSAL DECIMAL CLASSIFICATION: 621.87

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

"...DESCRIPTORS: **electromagnetic brake** ; ...

...electric **power** equipment operation...

... **electromagnetic** contactor...

... **resistor** ;

...BROADER DESCRIPTORS: electric **power** equipment...

... **electromagnetic** equipment...

... **brake** ;

10/3,K/38 (Item 1 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01829139 20040203684

Drive DC bus voltage control during power interruptions using kinetic energy recovery

Terorde, G; Driesen, J; Belmans, R

Dept. of Electr. Engng. (ESAT), Kathol. Univ. Leuven (KUL), Heverlee, B
10th Internat. Conf. on Harmonics and Quality of Power, Proc., Vol. 1, Rio
de Janeiro, BR, 6-9 Oct. 20022002

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 0-7803-7671-4

Drive DC bus voltage control during power interruptions using kinetic energy recovery

ABSTRACT:

...a total loss of system control since the control electronics are usually powered by the **DC** -link **capacitor** , requiring a full restart. The proposed solution to this problem is to recover some of...

...kinetic buffering. During the interruption interval, the drive system continues to operate at almost zero **electromagnetic** torque, just regenerating a minor amount of **power** to cover the electrical losses in the inverter. The still controlled **braking** of the drive depends on the available load torque. Thus, the implemented regenerative **braking** scheme allows the inverter to keep its **DC** bus voltage at a predetermined minimum level, expanding the time during which the supply voltage can be reapplied without the time-consuming **DC** -link **capacitor** recharging cycle.

Considering realistic conditions, advantages and drawbacks of different control approaches are discussed. Measured...

DESCRIPTORS: MIXER STAGE; MACHINE CONTROL; PERMANENT MAGNET MOTORS; PULSE WIDTH MODULATED INVERTORS; REGENERATIVE **BRAKING** ; SYNCHRONOUS MOTORS; TORQUE; VOLTAGE CONTROL; VOLTAGE BREAKDOWN; ELECTRIC DRIVES; **DC AC** CONVERTERS; CLOSED LOOP CONTROL SYSTEM ROBUSTNESS

10/3,K/39 (Item 2 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management

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01603498 20020202224

Two quadrants control of the switched reluctance motor drive for application in electric drive bicycle

Hao Chen; Xianjun Meng; Jianguo Jiang
Dept. of Autom., China Univ. of Min. & Technol., Xuzhou, China
2001 IEEE International Conference on Systems, Man and Cybernetics.
e-Systems and e-Man for Cybernetics in Cyberspace (Cat.No.01CH37236), 7-10
Oct. 2001, Tucson, AZ, USA2001
Document type: Conference paper Language: English
Record type: Abstract
ISBN: 0-7803-7087-2

ABSTRACT:

...paper presents the principles of two quadrants control, such as the traction control and regenerative **braking** control. The configuration of the switched reluctance motor drive for an electric drive bicycle, the...

...motors, such as the 12/8 and 6/8 structure motors, at the same average **electromagnetic** torque in the turn numbers of per stator pole coil, the **resistance** of the stator phased windings, and the basic output frequency of the **power** converter. Tested results of the developed prototype with the three-phase 12/8 structure motor...

...travel course with once charging, in the velocity, in the output torque, in the output **power**, in the systematic efficiency and in the peak value of phase current, are presented.

DESCRIPTORS: ELECTRIC VEHICLES; MACHINE CONTROL; PWM **POWER** CONVERTORS; REGENERATIVE **BRAKING**; VARIABLE SPEED DRIVES; ELECTRIC DRIVES; **POWER** CONVERTORS

10/3,K/40 (Item 3 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management
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01547415 20010807010

Suppressing the blade vibrations of a turbine-generator due to power disturbances by optimally operating a BR bank

(Unterdrueckung der Turbinenschaufelschwingungen bei einem Turbogenerator)

Tsai, W-C

Far East Inst. of Technol., Tainan, RC

JSME International Journal, Series C (Mechanical Systems, Machine Elements and Manufacturing), v44, n2, pp327-333, 2001

Document type: journal article Language: English

Record type: Abstract

ISSN: 1344-7653

Suppressing the blade vibrations of a turbine-generator due to power disturbances by optimally operating a BR bank

ABSTRACT:

This paper proposes an operating mode of a BR (**braking resistor**) bank, which was originally installed in generation system to promote the stability as well as improve the transient response, to suppress turbine blade vibrations arising from **power** system faults. Because most of cumulative blade damages are produced in the beginning cycles, this...
...BR bank about a cycle time is adequate to effectively restrict the peak system-frequency **electromagnetic** disturbing torques. Since the system-frequency responses always play an essential role on blade vibration behaviors arising from **power** system disturbances, vibrations can be significantly suppressed accordingly. The BR bank is activated at the instant of **power** system disturbances, it will dissipate only small amount of energy.

...DESCRIPTORS: TURBOMACHINERY; TURBINE GENERATORS; TRANSIENT RESPONSE;
AMOUNT OF ELECTRIC RESISTANCE

10/3,K/41 (Item 4 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management
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01332919 W99086433400

Advances in applied MHD technology for continuous casting process

(Fortschritte bei der Anwendung der Magnetohydrodynamik fuer die
Verbesserung des Stranggiessens)

Takeuchi, E; Toh, T; Harada, H; Miyazawa, K

Nippon Steel, J

International Conference on New Developments in Metallurgical Process

Technology, METEC Congress 99, Proceedings, Duesseldorf, June 13-15, 1999
1999

Document type: Conference paper Language: English

Record type: Abstract

ISBN: 3-514-00634-2

ABSTRACT:

...s applied MHD technology is the control of molten steel flow in the mold by **electromagnetic** stirring and **braking**. In this paper, features of these flow control techniques are described from a MHD point of view. Also introduced are some of the characteristic metallurgical benefits of **electromagnetic** stirring and **braking** confirmed by plant tests. Further, description is made of the technique of controlling the initial solidification of steel in the mold by an **alternating - current** magnetic field that has been attracting increasing attention in recent years, according to the results...

...and steel casting test. Application of MHD in the continuous casting process started with the **electromagnetic** stirring of stand pool with a traveling magnetic field. It has now advanced to the **electromagnetic** stirring of molten steel in the mold and the control of molten steel flow by an in-mold **DC** magnetic field **brake**. These applied MHD techniques are designed to further improve the continuous casting process capability. They ...

...and promoting the flotation of argon bubbles. A new concept of initial solidification control by **AC** magnetic field has been proposed, which decreases the surface roughness or the depth of oscillation marks on the cast billet and the withdrawal **resistance** in the mold to simultaneously achieve the high productivity and the high surface quality.

DESCRIPTORS: CONTINUOUS CASTING; **ELECTROMAGNETIC** FIELD THEORY;
MAGNETOHYDRODYNAMICS; LIQUID FLOW; SOLIDIFICATION; HEAT DISTRIBUTION;
QUALITY IMPROVEMENT; PRESSURE DISTRIBUTION

10/3,K/42 (Item 5 from file: 95)

DIALOG(R)File 95:TEME-Technology & Management
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01074510 I97023006304

Analysis of generator-driven linear induction launchers

(Analyse generatorbetriebener linearer Induktionsausloeser)

Liao, M; Zabbar, Z; Levi, E; Birenbaum, L

Polytechnic Univ., Brooklyn, NY, USA

8th Electromagnetic Launch Symposium, 21-24 April 1996, Baltimore, MD, USA

IEEE Transactions on Magnetics, v33, n1, PT.1, pp184-189, 1997
Document type: journal article Language: English
Record type: Abstract
ISSN: 0018-9464

ABSTRACT:

...the analysis and design of high-speed, multi-section, generator-driven, polyphase, linear-induction-type **electromagnetic** launchers. During a launch, steady state is never reached. Hence, a transient simulation model, based on lumped-circuit parameters, was developed, for purposes of analysis, in earlier work with **capacitor** -driven launchers. This model, as well as its related computer code, is also applicable to...

...found that simultaneous energizing of the three phases of generator-driven launchers gives rise to **DC** current components in the barrel-coils that can cause strong **braking** forces, especially at the transitions between sections. In this paper, an alternate energizing mode, in...

...phase angle, significantly influence the performance. With some poorly-chosen initial positions or phase angles, **DC** components of the currents in the armature can produce very large retarding forces, thus resulting...

...DESCRIPTORS: ELECTRIC COMPONENT; PHASE SHIFT; PHASE ANGLE; **DC** --...

... **DIRECT CURRENT** ; TRANSIENT STATE; INDUCTION; MILITARY APPLIANCES; MILITARY ENGINEERING; CONGRESS; ELECTRIC GENERATORS; NUMERICAL METHOD; **ELECTROMAGNETIC** INDUCTION; TRANSIENT ANALYSIS; COMPUTER CODES; ARMATURE IDENTIFIERS: **ELECTROMAGNETIC** LAUNCHERS; GENERATOR DRIVEN INDUCTION LAUNCHERS; LINEAR INDUCTION LAUNCHERS; HIGH SPEED MULTISECTION TYPE; POLYPHASE TYPE; TRANSIENT SIMULATION MODEL; LUMPED CIRCUIT PARAMETERS; BARREL COILS; **BRAKING** FORCES; **DC** CURRENT COMPONENTS; ENERGIZING MODE; PROJECTILE POSITION; SWITCH ON PHASE ANGLE; RETARDING FORCES; PROJECTILE DECELERATION; MUZZLE...

JP 11275705 A 19991008 JP 9889495 A 19980318 199954 B
JP 3421687 B2 20030630 JP 9889495 A 19980318 200343

Priority Applications (No Type Date): JP 9889495 A 19980318

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11275705	A		10	B60L-007/00	
JP 3421687	B2		10	B60L-007/00	Previous Publ. patent JP 11275705

Abstract (Basic): JP 11275705 A

NOVELTY - A control unit (10) **energizes** an **electromagnetic brake** (22) intermittently, at the time of emergency shut-down and sends a damping command to another control unit (17). The control unit (17) controls the damping of rotations of drive motor (1).

USE - For electric sheet chair.

ADVANTAGE - A quick stoppage of the electric wheel chair is obtained. DESCRIPTION OF DRAWING(S) - The figure shows the control block diagram of the control apparatus for electric vehicle. (1) Drive motor; (10,17) Control unit; (22) **Electromagnetic brake**.

Dwg.1/17

Title Terms: DAMP; CONTROL; APPARATUS; DRIVE; MOTOR; ELECTRIC; WHEEL; CHAIR ; CONTROL; UNIT; **ENERGISE** ; **ELECTROMAGNET** ; **BRAKE** ; INTERMITTENT; EMERGENCY; SHUT; DOWN; OUTPUT; DAMP; COMMAND

Derwent Class: Q14; S05; V06; X21

International Patent Class (Main): **B60L-007/00**

File Segment: EPI; EngPI

16/5/11 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012639054 **Image available**

WPI Acc No: 1999-445158/199938

XRAM Acc No: C99-131290

XRPX Acc No: N99-332005

Electromagnetic hysteresis yarn brake for a textile machine

Patent Assignee: SAURER ALLMA GMBH (SARR)

Inventor: SCHLAGENHAFT W

Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 19801334	A1	19990722	DE 1001334	A	19980116	199938 B
FR 2773923	A1	19990723	FR 99477	A	19990115	199938
DE 19801334	C2	20000525	DE 1001334	A	19980116	200030
US 6244395	B1	20010612	US 99229619	A	19990113	200135
IT 1306953	B	20011011	IT 99MI63	A	19990115	200232

Priority Applications (No Type Date): DE 1001334 A 19980116

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19801334	A1		5	H02K-049/10	
FR 2773923	A1			H02K-049/04	
DE 19801334	C2			H02K-049/10	
US 6244395	B1			B60L-007/00	
IT 1306953	B			H02K-000/00	

Abstract (Basic): DE 19801334 A1

NOVELTY - The **electromagnetic hysteresis brake** has at least one permanent magnet (5) near the magnet coil (4). It is deployed so that the magnetic field in the air gap (6) is formed by the combination

of the magnetic flows of the **electromagnet** (4) and the permanent magnet (5). The magnetic flow of the **electromagnet** (4) is set by a value and by the polarity, so that it works with or against the magnetic flow of the permanent magnet.

DETAILED DESCRIPTION - The permanent magnet (5) is structured to deliver a **braking** torque of about 50% of the max. **braking** torque. The magnet coil (4) of the **electromagnet** is concentric within the permanent magnet (5). The magnet coil (4) of the **electromagnet** and the permanent magnet (5) can be axially in succession, with the permanent magnet next to the **hysteresis** ring (7).

USE - The **brake** assembly is especially for use as a yarn **brake** in a textile machine.

ADVANTAGE - The **brake** continues to act effectively in the event of a power supply failure, without an emergency current supply system.

DESCRIPTION OF DRAWING(S) - The drawing shows an axial section through the **hysteresis brake**.

magnet coil (4)

permanent magnet (5)

air gap (6)

hysteresis ring (7)

pp; 5 DwgNo 1/5

Title Terms: **ELECTROMAGNET ; HYSTERESIS ; YARN; BRAKE ; TEXTILE; MACHINE**

Derwent Class: F01; Q14; Q36; V06; X25

International Patent Class (Main): **B60L-007/00 ; H02K-000/00; H02K-049/04; H02K-049/10**

International Patent Class (Additional): **B65H-059/10; B65H-059/16;**

D01H-013/10

File Segment: CPI; EPI; EngPI

16/5/12 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012261244 **Image available**

WPI Acc No: 1999-067350/199906

XRPX Acc No: N99-050608

Control apparatus of electrical-eddy-current brake - has controller to reduce energising amount of electrical-eddy-current energising coil of each electromagnet of brake , when rotating speed of rotating drum of brake is below predetermined value

Patent Assignee: TOKYO BUHIN KOGYO CO LTD (TOKB-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10313504	A	19981124	JP 97119448	A	19970509	199906 B

Priority Applications (No Type Date): JP 97119448 A 19970509

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 10313504	A	4	B60L-007/28	

Abstract (Basic): JP 10313504 A

The control apparatus has a rotating-speed sensor (11) to detect the rotating speed of the rotating drum (47) of an electrical-eddy-current **brake** (40). When the detected rotating speed is below a predetermined value, a controller (13) reduces the amount of **energising** to the electrical-eddy-current generating coil of each **electromagnet** of the **brake**.

USE - For large-sized vehicle e.g. truck.

ADVANTAGE - Prevents overheating of coil. Damping force of **brake** can be reduced gradually since damping is not cancelled suddenly, thus operator can get good damping feeling.

Dwg.1/3

Title Terms: CONTROL; APPARATUS; ELECTRIC; EDDY; CURRENT; **BRAKE** ; CONTROL; REDUCE; **ENERGISE** ; AMOUNT; ELECTRIC; EDDY; CURRENT; **ENERGISE** ; COIL; **ELECTROMAGNET** ; **BRAKE** ; ROTATING; SPEED; ROTATING; DRUM; **BRAKE** ; BELOW; PREDETERMINED; VALUE

Derwent Class: Q14; X13; X22

International Patent Class (Main): **B60L-007/28**

File Segment: EPI; EngPI

16/5/13 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012261243 **Image available**

WPI Acc No: 1999-067349/199906

XRPX Acc No: N99-050607

Control apparatus of electrical-eddy-current brake - has energising restraining device to reduce amount of energising to electrical-eddy-current energising coil of each electromagnet of brake , when detected temperature of coil exceeds predetermined value

Patent Assignee: TOKYO BUHIN KOGYO CO LTD (TKB-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10313503	A	19981124	JP 97119447	A	19970509	199906 B

Priority Applications (No Type Date): JP 97119447 A 19970509

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10313503	A		5	B60L-007/28	

Abstract (Basic): JP 10313503 A

The control apparatus has a temperature sensor (11) which detects the temperature of an electrical-eddy current generating coil (51a,55a) of each **electromagnet** (51,58) of the electrical-eddy-current **brake** (40). When the detected temperature exceeds a predetermined value, an **energising** restraining device (12) reduces the amount of **energising** to each coil.

USE - For large-sized vehicle e.g. truck.

ADVANTAGE - Prevents overheating of coil. Enables operator to correspond to variation of damping force since damping force can be reduced gradually.

Dwg.1/3

Title Terms: CONTROL; APPARATUS; ELECTRIC; EDDY; CURRENT; **BRAKE** ; **ENERGISE** ; RESTRAIN; DEVICE; REDUCE; AMOUNT; **ENERGISE** ; ELECTRIC; EDDY; CURRENT; **ENERGISE** ; COIL; **ELECTROMAGNET** ; **BRAKE** ; DETECT; TEMPERATURE; COIL; PREDETERMINED; VALUE

Derwent Class: Q14; X13; X22

International Patent Class (Main): **B60L-007/28**

File Segment: EPI; EngPI

16/5/14 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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010572431 **Image available**

WPI Acc No: 1996-069384/199608

XRAM Acc No: C96-022636

XRPX Acc No: N96-058277

Electromagnetic hysteresis yarn brake - has adjustable air gap for
simple setting

Patent Assignee: ZF FRIEDRICHSHAFEN AG (ZAHF)

Inventor: SCHNEIDER R

Number of Countries: 019 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4424457	A1	19960118	DE 4424457	A	19940712	199608	B
WO 9601779	A1	19960125	WO 95EP2633	A	19950707	199610	
EP 771303	A1	19970507	EP 95926398	A	19950707	199723	
			WO 95EP2633	A	19950707		
JP 10502518	W	19980303	WO 95EP2633	A	19950707	199819	
			JP 96504114	A	19950707		
US 5873436	A	19990223	WO 95EP2633	A	19950707	199915	
			US 97776002	A	19970110		
EP 771303	B1	19991117	EP 95926398	A	19950707	199953	
			WO 95EP2633	A	19950707		
DE 59507255	G	19991223	DE 507255	A	19950707	200006	
			EP 95926398	A	19950707		
			WO 95EP2633	A	19950707		
ES 2138228	T3	20000101	EP 95926398	A	19950707	200008	

Priority Applications (No Type Date): DE 4424457 A 19940712

Cited Patents: Jnl.Ref; DE 3732766; DE 3828110

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4424457	A1		6	H02K-049/10	
DE 59507255	G			B65H-059/16	Based on patent EP 771303
					Based on patent WO 9601779
ES 2138228	T3			B65H-059/16	Based on patent EP 771303
WO 9601779	A1 G	19		B65H-059/16	
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
EP 771303	A1 G			B65H-059/16	Based on patent WO 9601779
Designated States (Regional): CH DE ES FR GB IT LI					
JP 10502518	W	14		H02K-049/06	Based on patent WO 9601779
US 5873436	A			B60L-007/00	Based on patent WO 9601779
EP 771303	B1 G			B65H-059/16	Based on patent WO 9601779
Designated States (Regional): CH DE ES FR GB IT LI					

Abstract (Basic): DE 4424457 A

The **electromagnetic hysteresis brake**, such as for a yarn **brake** in a textile machine, has one adjustable air gap (12).

ADVANTAGE - The **brake** has a simple adjustment in relation to a unified torque.

Dwg.1/4

Title Terms: **ELECTROMAGNET ; HYSTERESIS ; YARN; BRAKE ; ADJUST; AIR; GAP ; SIMPLE; SET**

Derwent Class: F01; Q14; Q36; V06; X25

International Patent Class (Main): **B60L-007/00 ; B65H-059/16; H02K-049/06; H02K-049/10**

International Patent Class (Additional): **B65H-059/10; B65H-059/18; D01H-001/20; D01H-013/10**

File Segment: CPI; EPI; EngPI

16/5/15 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009909551 **Image available**

WPI Acc No: 1994-177257/199422

XRPX Acc No: N94-139608

Hydraulic friction braking system for electrically propelled vehicle - incorporates pedal with characteristic feel imparted by compression spring in coupling to electromagnet -driven braking piston

Patent Assignee: ITT AUTOMOTIVE EURO GMBH (INTT)

Inventor: BALZ J; BILL K; HALASY-WIMMER G; KIRCHER D; KUNZE L; RIETH P E

Number of Countries: 003 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4239386	A1	19940526	DE 4239386	A	19921124	199422 B
FR 2698331	A1	19940527	FR 9313949	A	19931122	199424
US 5421643	A	19950606	US 93157742	A	19931124	199528
US 5551764	A	19960903	US 93157742	A	19931124	199641
			US 95403651	A	19950314	

Priority Applications (No Type Date): DE 4239386 A 19921124

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4239386	A1	12		B60T-013/74	
US 5421643	A	12		B60T-011/20	
US 5551764	A	13		B60T-011/20	Div ex application US 93157742 Div ex patent US 5421643
FR 2698331	A1			B60T-007/06	

Abstract (Basic): DE 4239386 A

The effect of regenerative **braking** by the traction motor is augmented by friction **brakes** applied by hydraulic pressure from a master cylinder (11) under electronic control (70). The actuating rod (6) coupled to the **brake** pedal is surrounded by a helical simulator spring (8) compressed between the end of its casing and an **electromagnet** (9) whose armature (13) surrounds the hydraulic piston rod (15).

The end of the armature impinges upon an annular flange (16) around the piston rod, causing the piston (54) to slide into the cylinder and expel fluid under pressure into the wheel **brake** lines.

ADVANTAGE - **Brake** pedal characteristic corresponds to that of standard combustion-engined car with slight **hysteresis** in interests of comfortable driving.

Dwg.3/5

Title Terms: HYDRAULIC; FRICTION; **BRAKE** ; SYSTEM; ELECTRIC; PROPEL; VEHICLE; INCORPORATE; PEDAL; CHARACTERISTIC; FEEL; IMPART; COMPRESS; SPRING; COUPLE; **ELECTROMAGNET** ; DRIVE; **BRAKE** ; PISTON

Derwent Class: Q18; X21

International Patent Class (Main): B60T-007/06; B60T-011/20; B60T-013/74

International Patent Class (Additional): **B60L-007/26** ; B60L-011/00;

B60T-011/28; B60T-013/66

File Segment: EPI; EngPI

16/5/16 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009451496 **Image available**

WPI Acc No: 1993-145021/199318

XRPX Acc No: N93-110785

Electrically operated friction braking arrangement for motor vehicle - effects rapid deceleration from high speed to upper limit of range of conventional mechanical brake system

Patent Assignee: AKEBONO BRAKE IND CO LTD (AKEB); AKEBONO RES & DEV CENT LTD (AKEB)

Inventor: MORI M

Number of Countries: 002 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4235502	A1	19930429	DE 4235502	A	19921021	199318 B
US 5333706	A	19940802	US 92962099	A	19921016	199430

Priority Applications (No Type Date): JP 924141 A 19920113; JP 91273899 A 19911022

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4235502	A1	11		B60L-007/24	
US 5333706	A	10		B60T-008/50	

Abstract (Basic): DE 4235502 A

The **brake** disc (3) fixed to the axle (2) has rotor windings (5) secured near its centre in electrical contact with a brush (4) on the inside of the stator (1), whose windings (6) are arranged on both sides of the rotor (3).

A pair of friction pads (7) on the end of an electric actuator (8) are applied to the disc (3) by a control circuit (12) responsive to sensors of **brake** pedal movement (11) and road speed (15) above a min. value of the latter.

ADVANTAGE - Highly reliable system requires no piping and can be controlled with sensitivity by driver.

Dwg.1/4

Title Terms: ELECTRIC; OPERATE; FRICTION; **BRAKE** ; ARRANGE; MOTOR; VEHICLE; EFFECT; RAPID; DECELERATE; HIGH; SPEED; UPPER; LIMIT; RANGE; CONVENTION; MECHANICAL; **BRAKE** ; SYSTEM

Derwent Class: Q14; Q18; X22

International Patent Class (Main): **B60L-007/24** ; B60T-008/50

International Patent Class (Additional): B60T-008/32; B60T-008/60; B60T-013/74

File Segment: EPI; EngPI

16/5/17 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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009071351 **Image available**

WPI Acc No: 1992-198758/199224

XRPX Acc No: N92-150279

Railway eddy current-type braking system - uses electromagnetic coils mounted on bogies with pole tips charge following that of wheel track

Patent Assignee: IVANOV M V (IVAN-I)

Inventor: IVANOV M V

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1678663	A1	19910923	SU 4477003	A	19880711	199224 B

Priority Applications (No Type Date): SU 4477003 A 19880711

Patent Details:

Patent No: Kind Lan Pg Main IPC Filing Notes
SU 1678663 A1 4 B60L-007/28

Abstract (Basic): SU 1678663 A

The system consists of a magnetic core (1) mounted on the side (2) of the waggon bogie. Between the supporting lugs of the core (1) and the side (2) there is a thin layer of diamagnetic material and the core is fixed to the sides (2) by means of staples. The core terminates in poles (N) and (S) with terminals (4) near the surface of the wheels. At each pole there is a coil (6). The ends of the coils are connected to a power line under the waggon and also to the waggon body.

In each waggon, there are emergency points with control buttons with two normally open contacts. On pressing the buttons, one pair of contacts sends power to the **electromagnetic** circuit whilst the second initiates an alarm signal and indicates to the guard, which emergency point was used. When the current is supplied to the coil (6) a circuit is created through the rails (7) and the magnetic field prevents the wheels from turning.

ADVANTAGE - Simplification of the installation. Bul.35/23.9.91.

Dwg.1/5

Title Terms: RAILWAY; EDDY; CURRENT; TYPE; **BRAKE** ; SYSTEM; **ELECTROMAGNET** ; COIL; MOUNT; BOGIE; POLE; TIP; **CHARGE** ; FOLLOW; WHEEL; TRACK

Derwent Class: Q14; X23

International Patent Class (Main): **B60L-007/28**

File Segment: EPI; EngPI

16/5/18 (Item 11 from file: 350)

DIALOG(R) File 350:Derwent WPIX

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008763359 **Image available**

WPI Acc No: 1991-267373/199136

XRPX Acc No: N91-204134

Electromagnetic braking device - comprises electromagnetic coils, rotor consisting of conductors, switching device connected to EM coils and controller

Patent Assignee: FUJITSU LTD (FUJIT); TOKYO BUHIN KOGYO CO LTD (TOKB-N); TOKYO BUHIN KOGIYO CO (TOKB-N)

Inventor: AKIMA H; ISHIKURA Y; KISHI T; AKIMA Y

Number of Countries: 005 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9112657	A	19910822				199136	B
JP 3239199	A	19911024	JP 9034871	A	19900214	199149	
JP 3239200	A	19911024	JP 9034872	A	19900214	199149	
EP 466941	A	19920122	EP 91903821	A	19910214	199204	
EP 466941	A4	19930505	EP 91903821	A	19910000	199526	
US 5485901	A	19960123	WO 91JP177	A	19910214	199610	
			US 91768659	A	19911011		
EP 466941	B1	19961218	EP 91903821	A	19910214	199704	
			WO 91JP177	A	19910214		
DE 69123651	E	19970130	DE 623651	A	19910214	199710	
			EP 91903821	A	19910214		
			WO 91JP177	A	19910214		

Priority Applications (No Type Date): JP 9034872 A 19900214; JP 9034871 A 19900214

Cited Patents: JP 1303100; JP 58075403; DE 3108732; FR 2389267

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5485901	A		20	H02P-015/00	Based on patent WO 9112657
EP 466941	B1 E		22	H02P-015/00	Based on patent WO 9112657
Designated States (Regional): DE FR GB					
DE 69123651	E			H02P-015/00	Based on patent EP 466941
					Based on patent WO 9112657

Abstract (Basic): WO 9112657 A

Without controlling the increase or decrease of the number of **electromagnetic** coils (22) to be driven, the current control of the **electromagnetic** coils are performed including the temperature of a rotor (23) in a controlled system and thereby, environmental influence due to heat and deformation of the rotor are suppressed to the utmost. The device comprises the **electromagnetic** coils (22) provided on the stationary part side of a power feeder, the rotor (23) consisting of conductors provided on the rotating shaft side of the power feeder, switching device (24) connected to the **electromagnetic** coils, and a controller (15) for outputting switching data to the switching means on the basis of external control data.

Further, the device is constituted so that the controller controls the ON/OFF ratios of the currents flowing through the **electromagnetic** coils via the switching means. (57pp Dwg.No.4/14)%

Title Terms: **ELECTROMAGNET ; BRAKE ; DEVICE; COMPRISE; ELECTROMAGNET ; COIL; ROTOR; CONSIST; CONDUCTOR; SWITCH; DEVICE; CONNECT; EM; COIL; CONTROL**

Derwent Class: Q14; X13

International Patent Class (Main): H02P-015/00

International Patent Class (Additional): **B60L-007/28**

File Segment: EPI; EngPI

16/5/19 (Item 12 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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004653525

WPI Acc No: 1986-156867/198625

XRPX Acc No: N86-116689

Electrical brake for car - uses eddy currents between disc rotating with axle and pole shoes and stator fixed to stationary carrier

Patent Assignee: LABAVIA SGE SARL (LABA-N)

Inventor: DANCYGIER G; MARANDET A

Number of Countries: 014 Number of Patents: 018

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 3542372	A	19860612	DE 3542372	A	19851130	198625	B
BE 903794	A	19860605	BE 903794	A	19851205	198625	
GB 2168440	A	19860618	GB 8529963	A	19851205	198625	
FR 2574228	A	19860606				198629	
SE 8505755	A	19860606				198630	
AU 8550831	A	19860612				198631	
NL 8503358	A	19860701				198631	
JP 61185062	A	19860818	JP 85274262	A	19851205	198639	
BR 8506109	A	19860819				198640	
ZA 8509324	A	19861205				198712	
US 4668886	A	19870526	US 85804770	A	19851205	198723	
CH 664653	A	19880315				198816	
GB 2168440	B	19880608				198823	
DE 3542372	C	19891026				198943	
CA 1261383	A	19890926				198945	

IT 1201391	B	19890127			199120
SE 468190	B	19921116	SE 855755	A	19851205 199249
NL 192965	B	19980202	NL 853358	A	19851205 199810

Priority Applications (No Type Date): FR 8418549 A 19841205

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 3542372	A		19		
NL 192965	B		8	H02K-049/04	
SE 468190	B			H02K-049/02	

Abstract (Basic): DE 3542372 A

The electrical **brake** has a stator which consists of a number of separate poles of alternate polarity and a cylindrical core of ferromagnetic material carrying the winding, arranged on a carrier plate and conveniently spaced on a pitch circle of the required diameter. The carrier plate and the poles are rigidly attached to the outer bearing housing of the shaft which has to be braked. The axes of the cores point in the same direction as the shaft. The ends of the cores are closed by a shoe plate, shaped as a trapezium, and the plates can all rotate about the axis of a screw which holds a plate, core and winding to the carrier plate. The shaped plates all rotate by an eccentric peg. in unison, when the **brakes** are applied.

On the outside of the stator poles there is the induction disc of ferromagnetic material, rotating with the shaft and about the same axis and past the poles and the poles shoes, separated only by a narrow ring-shaped air gap. Normally the pole shoes are not aligned symmetrically with respect to the cores and the windings, so that they do not cover the windings, allowing the magnetic energy to escape. Most of the magnetic energy is used **braking** and **energising** of the windings and to prevent the rotation of the shaft.

ADVANTAGE - Improved **braking** moment.

Title Terms: ELECTRIC; **BRAKE** ; CAR; EDDY; CURRENT; DISC; ROTATING; AXLE; POLE; SHOE; STATOR; FIX; STATIONARY; CARRY

Derwent Class: Q14; X11; X22

International Patent Class (Main): H02K-049/02; H02K-049/04

International Patent Class (Additional): **B60L-007/28** ; G01M-017/06;

G05F-000/00; G05G-000/00; H02K-007/10; H02P-003/04; H05K-049/02

File Segment: EPI; EngPI

16/5/20 (Item 13 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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003248915

WPI Acc No: 1982-A6266E/198203

High speed rail vehicle electromagnetic brake - has additional coils perpendicular to direction of travel between adjacent electromagnet poles to reduce power consumption

Patent Assignee: UNIV ROST (UYRO)

Inventor: DOROZHKIN V N

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 818927	B	19810407				198203 B

Priority Applications (No Type Date): SU 2762874 A 19790507

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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Abstract (Basic): SU 818927 B

High speed rail vehicle **electromagnetic brake** has additional windings with coils perpendicular to direction of motion of the train wired into the **electromagnet** field coil circuit. The additional windings are located between the pole pieces of adjacent **electromagnets**. This reduces power consumption and variation of **braking** force by converting energy of the moving mass into electrical energy.

During **braking** the **electromagnetic brake** is brought as close as possible to the rail and electrical circuit closed. Current passes through main windings (2), additional windings (5) being de- **energised** by the diode in the circuit.

The magnetic field generated by windings (2) closes through the rail surface and generates eddy currents creating an additional magnetic field resulting in magnetised sections on the rail beyond poles (4). An e.m.f. induced in windings (5) which, when it exceeds that of the external source, or on switching of the external source, will result in main winding feed from additional windings. This will generate a field coincident with that in the pole pieces and will be unaffected by direction of travel. Bul.13/7.4.81. (3pp Dwg.No.1

Title Terms: HIGH; SPEED; RAIL; VEHICLE; **ELECTROMAGNET** ; **BRAKE** ; ADD; COIL; PERPENDICULAR; DIRECTION; TRAVEL; ADJACENT; **ELECTROMAGNET** ; POLE; REDUCE; POWER; CONSUME

Derwent Class: Q14; Q21; X23

International Patent Class (Additional): **B60L-007/28** ; B61H-007/08

File Segment: EPI; EngPI

16/5/21 (Item 14 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001882569

WPI Acc No: 1978-B1802A/197806

Eddy current brake assembly - has electromagnets with hermetically sealed solenoids clipped to brake holder

Patent Assignee: LABAVIA-SGE (LABA-N)

Number of Countries: 008 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 2733898	A	19780202				197806 B
SE 7708744	A	19780227				197811
FR 2360162	A	19780331				197817
US 4135106	A	19790116				197904
AT 7705536	A	19790415				197918
CH 617547	A	19800530				198024
CA 1088985	A	19801104				198048
GB 1585804	A	19810311				198111

Priority Applications (No Type Date): FR 7623474 A 19760730

Abstract (Basic): DE 2733898 A

The electrodynamic **brake** has a series of solenoid coils (2) arranged around the stator support and acting on a rotating ferromagnetic plate coupled to the drive shaft. The magnets are **energised** to provide the dynamic retardation and are themselves potted in waterproof housings.

The waterproof housings comprise plastic skins (3) with moulded

ends (6) so that they can be clipped into recesses in the stator support. The dynamic **brake** is mounted on the drive shaft without any special protection for the magnets.

Title Terms: EDDY; CURRENT; **BRAKE** ; ASSEMBLE; **ELECTROMAGNET** ; HERMETIC; SEAL; SOLENOID; CLIP; **BRAKE** ; HOLD

Derwent Class: Q14; V02; X11; X12; X21; X23; X24

International Patent Class (Additional): **B60L-007/28** ; H01F-005/06;

H01F-015/10; H02K-049/04

File Segment: EPI; EngPI

16/5/22 (Item 15 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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001241005

WPI Acc No: 1975-C4793W/197509

Electromagnetic operated clutches and brakes - stray magnetic fields are minimised using toroidal shape magnetic field

Patent Assignee: AUTOMATIC RES DEV (AUTO-N)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 3866729	A	19750218				197509 B

Priority Applications (No Type Date): US 73369502 A 19730613

Abstract (Basic): US 3866729 A

The **electromagnet** of an **electromagnetically** operated clutch or **brake** has an annular core with radial pole pieces carrying the **energising** coils, and an armature providing a pair of pole faces arranged to cooperate respectively with the ends of the pole pieces and an annular end face of the core to complete the magnetic circuit. With such an arrangement, in which the coils of the **electromagnet** are symmetrically arranged around the axis, the components of the stray magnetic field cancel one another out. This prevents such problems as e.g. the collection of abrasive particles where they will do harm.

Title Terms: **ELECTROMAGNET** ; OPERATE; CLUTCH; **BRAKE** ; STRAY; MAGNETIC; FIELD; MINIMISE; TOROIDAL; SHAPE; MAGNETIC; FIELD

Derwent Class: Q14; Q63; X21; X23; X25

International Patent Class (Additional): **B60L-007/00** ; F16D-027/04

File Segment: EPI; EngPI

16/5/23 (Item 1 from file: 371)

000992937 **Image present**

Titre: GROUPE MOTOPROPULSEUR COMPORTANT DES MOYENS DE RECUPERATION DE PUISSANCE EN DECELERATION

Deposant: RENAULT (No. SIREN: 780129987)

Nom et Adresse du Deposant: RENAULT - Deposant - 34 QUAI DU POINT DU JOUR 92109 BOULOGNE BILLANCOURT (FR-92109)

Nom Inventeurs: KERETLI FAHRI - 8 RUE MME DE SEVIGNE 78320 LE MESNIL SAINT DENIS (FR-78320); DEWAELE GILLES - 5 RUE F LAUBEUF 78400 CHATOU (FR-78400); GUYOT DOMINIQUE - 1 SQUARE DU DRAGON 78150 LE CHESNAY (FR-78150)

Nom Mandataire: CABINET PHILIPPE KOHN

Nature de Publication: Brevet

Information de Brevet et Priorites (Pays, Numero, Date):

Numero Publication: FR 2803253 - 20010706

Numero Depot: FR 9916727 - 19991230

Priorites: FR 9916727 - 19991230

Rapport de Recherche Preliminaire (Brevet/Reference, Code de Pertinence):

Cites dans le rapport de recherche

Cites par le deposant

EP 915236 A (Cat. X)

US 5899828 A (Cat. A)

US 5255650 A (Cat. A)

EP 965474 A (Cat. A)

US 5899828 A

Resume:

L'invention propose un groupe motopropulseur, comportant un moteur thermique (12) dote d'un systeme (14) d'injection et de soupapes commandes par une unite (18) de commande asservie par une pedale (36) d'accelerateur, et du type dans lequel un module electronique (34) pilote un alternateur (26) et l'unite (18) pour controler le systeme (14) d'injection et les soupapes, pour etabliir, en reponse au lacher de la pedale (36), une configuration determinee selon laquelle le systeme d'injection (14) est inactif et les soupapes sont ouvertes pour reduire le frein moteur, caracterise en ce que le module electronique (34) peut, dans la configuration determinee, etabliir un mode de recuperation de puissance en deceleration dans lequel, en fonction d'un bilan de valeurs de puissances mecaniques et/ ou electriques pouvant etre echangees dans l'ensemble du groupe motopropulseur, le module electronique (34) pilote l'unite (18) de commande du moteur pour ouvrir les soupapes et commander la **charge** de la batterie (32) de stockage.

Classification Internationale (Principale): B60K-026/00

Classification Internationale: **B60L-007/18** ; B60L-011/12

Descripteurs Francais: VEHICULE AUTOMOBILE; FREIN MOTEUR; ALTERNATEUR; MODULE ELECTRONIQUE; RECUPERATION; SOUPAPE; COMMANDE **ELECTROMAGNETIQUE** ; MOTEUR THERMIQUE

Descripteurs Anglais: AUTOMOTIVE VEHICLE; GENERATION; ENGINE **BRAKE** ; ELECTRONIC MODULE; RECOVERY; VALVE; **ELECTROMAGNETIC** CONTROL; THERMAL ENGINE

?

PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES

?